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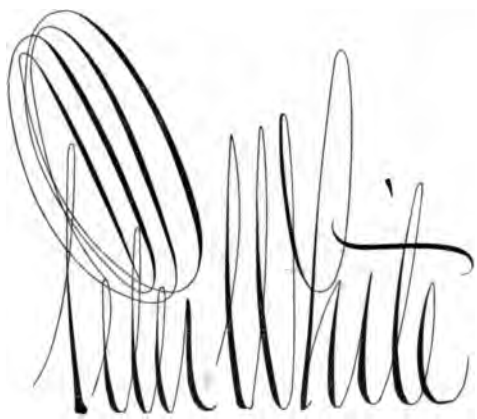
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THE HONORABLE PETER WHITE.

The Honorable Peter White

A BIOGRAPHICAL SKETCH OF THE LAKE SUPERIOR IRON COUNTRY

BY

RALPH D. WILLIAMS

WITH NUMEROUS ILLUSTRATIONS

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CLEVELAND

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This book is respectfully dedicated

to the

great Iron and Steel trade

of the

United States

THE growth of our enormous iron and steel industries, which are pointed out as the result of our protective tariff, can be more surely traced to our enormous resources in the iron mines of Michigan, Wisconsin and Minnesota than from all other sources. The cheap production of the highest grade of ore in these mines and the low rates of transportation to Lake Erie ports have done more to build up the iron and steel industries of the United States than all the tariffs that have ever been placed upon the statute books, and today, if these mines were closed, our superiority in the iron and steel trade of the world would be gone forever. J. J. Hill, President Great Northern Railway.

179308

CONTENTS.

PROLOGUE.—EARLY HISTORY OF LAKE SUPERIOR.—COMMERCIAL DISCOVERY OF COPPER.—THE DISCOVERY OF IRON ORE.

CHAPTER I. THE JOURNEY TO THE IRON MINES.

CHAPTER II. THE FOUNDING OF MARQUETTE.

CHAPTER III. THE OVERLAND JOURNEY TO ESCANABA.

CHAPTER IV. PROVING THE CLAIMS TO THE IRON DEPOSITS.

CHAPTER V. FIRST ORE HAULED FROM CLEVELAND MINE.

CHAPTER VI. PETER WHITE BECOMES POSTMASTER.

CHAPTER VII. FIRST LAKE SHIPMENT OF IRON ORE.

CHAPTER VIII. FIRST USE OF THE ORE IN PENNSYLVANIA AND OHIO.

CHAPTER IX. PETER WHITE AND HIS DOG SLEDS.

CHAPTER X. BUILDING THE OLD STRAP RAILROAD.

CHAPTER XI. SAULT STE. MARIE BEFORE THE CANAL.

CHAPTER XII. LAKE SUPERIOR SHIPPING BEFORE THE CANAL.

CHAPTER XIII. CONSTRUCTION OF THE SAULT STE. MARIE CANAL.

CHAPTER XIV. FIRST SHIPMENT OF ORE THROUGH THE CANAL.

CHAPTER XV. STEAM RAILROAD FINISHED TO THE MINES.

CHAPTER XVI. PIG IRON MANUFACTURE IN THE PENINSULA.

CHAPTER XVII. PETER WHITE AS A BUSINESS MAN.

CHAPTER XVIII. SOLVING THE PROBLEM OF UNLOADING ORE.

CHAPTER XIX. DISCOVERY OF THE MESABI RANGE.

CHAPTER XX. SUBSEQUENT LOCKS OF SAULT STE. MARIE CANAL.

CHAPTER XXI. FRANCIS H. CLERGUE AND HIS INDUSTRIES.

CHAPTER XXII. PETER WHITE'S MONUMENT IS PRESQUE ISLE.

CHAPTER XXIII. THE SAULT CANAL SEMI-CENTENNIAL CELEBRATION.

EPILOGUE.

CONCLUSION.

ILLUSTRATIONS.

THE HONORABLE PETER WHITE FRONTISPIECE
DR. DOUGLAS HOUGHTON 5
THREE IMPLEMENTS FOUND AT THE OLD COPPER MINES 8
THE CLIFF MINE IN THE SPRING OF 1845 12
JOHN HAYS 13
WILLIAM A. BURT 19
THE SITE OF THE OLD JACKSON FORGE 21
PHILO M. EVERETT 22
ARIEL N. BARNEY 24
CHARLES BAWGAM, THE CHIPPEWA CHIEF 25
ORIGINAL JACKSON MINE 26
JACKSON STUMP 27
DR. ZINA PITCHER 33
ALEXANDER L. CRAWFORD 48
FAC-SIMILE OF BILL OF LADING OF THE FIRST SHIPMENT OF ORE 63
JOHN J. SPEARMAN AT 22 74
J. J. SPEARMAN, 1907 75
M. S. MARQUIS IN 1850 76
JOHN T. REEVES AND M. S. MARQUIS 77
CHARLES T. HOWARD 78
W. J. GORDON 83
THE SIDE WHEEL STEAMER ILLINOIS 84
CAPT. J. H. ANDREWS 86
JOHNSTON'S HOUSE AS IT APPEARS TODAY, FROM THE STREET FRONT 94
JOHNSTON'S HOUSE AS IT APPEARS TODAY, FROM THE RIVER FRONT 95
THE OLD HUDSON BAY CO.'S LOCK 97
THE ELMS UNDER WHICH TANNER'S HOUSE STOOD, 1905 104
THE CORRECT RIG OF THE GRIFFIN 109
SHOWING ALL THAT IS LEFT OF THE ALGONQUIN 112
JOHN BURT 118
ORIGINAL UPPER LOCK OF 1855 119
METHOD OF OPERATING ORIGINAL LOCK GATES 120
FIRST MAP OF PROPOSED CANAL AND LOCKS AT SAULT STE. MARIE 121
THE LOCKS THAT WERE IN CONTINUED USE FROM 1855 TO 1887 123
CAPT. EBER B. WARD 128
MR. CHARLES T. HARVEY AS HE IS TODAY 132

THE BRIG COLUMBIA 138
JACOB REESE IN 1855 139
JACOB REESE IN 1906 141
DR. GEORGE B. RUSSEL 142
PROPELLER MINERAL ROCK 143
PETER WHITE IN THE 60'S 146
THE OLD IRON MOUNTAIN RAILROAD'S FIRST HAND BILL 149
L. D. HARVEY IN 1856 154
DIAGRAM OF BLOWING ENGINE FOR THE PIONEER FURNACE 162
THE FURNACE AT FORESTVILLE, NEAR MARQUETTE 163
THE OLD CHARCOAL KILNS NEAR NEGAUNEE 164
MORGAN FURNACE, BUILT IN 1863 164
GREENWOOD FURNACE, BUILT IN 1864 164
CLARKSBURG FURNACE, BUILT IN 1866 165
CHAMPION FURNACE, BUILT IN 1867 165
MUNISING FURNACE, BUILT IN 1868 165
GRACE FURNACE, MARQUETTE, MICH 166
PLAN OF THE PIONEER FURNACE IN 1857 167
L. D. HARVEY AS HE IS TODAY 168
TUG CHAMPION TOWING A FLEET OF SCHOONERS THROUGH THE RIVERS 169
VILLAGE OF MARQUETTE ABOUT 1861 172
MARQUETTE DOCKS AND SHIPPING ABOUT 1861 173
MARQUETTE HARBOR IN 1863 175
THE SCHOONER JAMES F. JOY 178
SARNIA BAY IN 1870 180
LITTLE DOCK ENGINE INSTALLED ON THE NYPANO DOCK, CLEVELAND, 1867 182
THE STEAMER V. H. KETCHUM, LAUNCHED IN 1874 183
THE WOODEN FLEET IN SHELTER AT SAND BEACH 184
ASHTABULA HARBOR IN 1874 185
THE SECOND STAGE OF ORE UNLOADING 187
ALEXANDER E. BROWN 189
ROBERT ASPIN 190
ANOTHER VIEW OF THE BROWN BRIDGE TRAMWAY AT ASHTABULA 191
CHAMPION ORE HOISTS, SECTIONAL VIEW 192
DIAGRAM OF CHAMPION ORE HOIST 193
THE CHAMPION ORE HOISTS AT THE ILLINOIS STEEL CO.'S PLANT 194
STEAMER E. H. GARY UNDER UNLOADING MACHINE, CONNEAUT 196
VIEW OF HARBOR OF ASHTABULA IN 1902 197
BROWN GRAB BUCKET IN THE HOLD OF STEAMER WOLVIN 199
HULETT CLAM-SHELL BUCKET IN THE WOLVIN'S HOLD 200
SHOWING THIRD STAGE OF ORE HANDLING 201
GEORGE H. HULETT 203
FINE VIEW OF THE BROWN ELECTRIC FAST PLANT AT CONNEAUT 204
BROWN BRIDGE TRAMWAYS OF THE BUFFALO & SUSQUEHANNA IRON CO.'S PLANT AT BUFFALO 205

NEW HULETT UNLOADING MACHINES AT NATIONAL TUBE CO.'S PLANT AT LORAIN 206
DEMOLISHING THE ORIGINAL LOCKS OF 1855 207
BROWN ELECTRICAL UNLOADING MACHINES AT CONNEAUT 208
AMERICAN LOCKS, SAULT STE. MARIE CANAL 210
GEN. O. M. POE 212
THE GREAT CANADIAN LOCK AT SAULT STE. MARIE 214
INDIANS FISHING IN THE RAPIDS 215
THE APPROACH TO SAULT STE. MARIE CANAL 216
MR. FRANCIS H. CLERGUE 218
MICHIPICOTEN HARBOR 219
THE GROUND WOOD PULP MILL 220
THE GREAT POWER CANAL ON THE MICHIGAN SIDE 221
GENERAL VIEW OF LAKE SUPERIOR CORPORATION'S WORKS 222
PANORAMIC VIEW OF CLERGUE INDUSTRIES 223
HEAD GATES, POWER CANAL, MICHIGAN, LAKE SUPERIOR POWER CO. ... 224
CHEMICAL LABORATORY AND SULPHITE PULP MILL AT SAULT STE. MARIE 225
THE BLAST FURNACES AT SAULT STE. MARIE 227
GENERAL VIEW OF BLAST FURNACES AND WATER APPROACH 229
THE RAIL MILL AT SAULT STE. MARIE 231
PETER WHITE AT THE CLEVELAND CO.'S SEMI-CENTENNIAL 237
PETER WHITE PUBLIC LIBRARY 239
CHARLES T. HARVEY, CHIEF MARSHAL 245
THE FLAG OF THE ADMIRAL OF THE DAY 246
ADMIRAL PETER WHITE'S FLAGSHIP MARIGOLD 247
THE LAND PARADE, SAULT STE. MARIE SEMI-CENTENNIAL 248
INDIAN TEPEES AT SAULT CANAL SEMI-CENTENNIAL 249
FLAGSHIP MARIGOLD PASSING BETWEEN WOLVERINE AND YANTIC ... 250
TRAINING SHIP YANTIC AT SAULT CANAL CELEBRATION 251
IN THE SPEAKERS' STAND, SAULT STE. MARIE SEMI-CENTENNIAL 253
NAVAL VESSELS IN THE GREAT POE LOCK 255
CANADIAN LOCK WITH GATES CLOSED 256
THE INDIAN TEPEES ON THE CANAL PARK 259
NAVAL VESSELS IN CANADIAN LOCK 261
THE CONNECTING LINKS OF THE HALF CENTURY 265
THE MONOLITH ERECTED AT SAULT STE. MARIE BY THE SEMI-CENTENNIAL COMMISSION 267
VIEW OF THE SEMI-CENTENNIAL NAVAL PARADE 269
PETER WHITE ON THE FRONT LAWN OF HIS HOME, 1907 279
PETER WHITE'S HOME IN MARQUETTE 280
PHOTOGRAPHING DEER AT NIGHT 281
PETER WHITE IN HIS FLOWER GARDEN AT HOME, 1907 283
THE HONORABLE PETER WHITE AS HE IS TODAY 286

PREFACE.

This book is unlike any other in that it is really a romance though it deals with facts. There is no statement in it that is not result of patient research. It has seemed best to write it while it was yet possible, for the information which it contains has been secured at first hand. The industrial supremacy of the United States among nations is due wholly to the purity, abundance, cheapness of mining and low rate of transportation of Lake Superior ores. There are living chronicles today of the early development of this region—men, who as boys went into that country to develop it, then an unbroken wilderness—and from their lips the story has been secured. Obviously if not written now it could not, in a little while, be written at all. So vast indeed has been the progress since that it seems incredible that it should have occurred within the lifetime of one man. Yet Lake Superior, in a commercial sense, is only fifty years old. The beginnings, therefore, of this great iron industry are historically important and are of interest to every citizen in the United States, for there is not a man or woman today living who has not been, directly or indirectly, benefited by the great mineral wealth of the Lake Superior country and the labor of winning it and working it into the arts.

It has seemed just also to incorporate the work under the title which has been given to it. Peter White, as a boy, assisted in stripping the first iron mine; he wrote the bill of lading of one of the earliest, if not the first, shipment of ore—only six barrels, it is true, but how prodigious has the stream grown since; and moreover he is still active in this great industrial theater. The first shipments of ore are traced through the furnaces, refractory, rebellious and not easy to smelt, because the early furnaces were not adapted to it. The painful hauling of the ore to the shore of the lake in sleighs in the winter time and along a plank road in the summer time is depicted; the equally painful portage around the rapids of St. Mary's river, to be loaded again upon tiny vessels; the tedious and expensive loading and unloading by wheelbarrows and gang planks; until in the course of time the portage gives way to the canal, the plank road to the most solidly constructed railways in the world, the wheelbarrows to the great docks with their pockets and chutes

and the equally great automatic unloading machines; and the tiny vessels to a fleet of ships so large in size that ocean liners scarcely rival them and so numerous that over a waterway 1,000 miles long one is never out of sight of the other—and all this within a single lifetime. The record of the Lake Superior iron ore output is noted below by years. It is given because it is responsible for the great commercial panorama that is to be seen any day on the great lakes of North America and for the widespread prosperity that the iron and steel trade of the United States has enjoyed:

Year.	Tons.	Year.	Tons.
1855	1,449	1881	2,307,005
1856	36,343	1882	2,965,412
1857	25,646	1883	2,352,840
1858	15,876	1884	2,518,693
1859	68,832	1885	2,466,642
1860	114,401	1886	3,565,144
1861	49,909	1887	4,762,107
1862	124,169	1888	5,063,877
1863	203,055	1889	7,292,643
1864	243,127	1890	9,003,725
1865	236,208	1891	7,071,053
1866	278,796	1892	9,072,241
1867	473,567	1893	6,065,716
1868	491,449	1894	7,748,312
1869	617,444	1895	10,429,037
1870	830,940	1896	9,934,828
1871	779,607	1897	12,464,574
1872	900,901	1898	14,024,673
1873	1,162,458	1899	18,251,804
1874	919,557	1900	19,059,393
1875	891,257	1901	20,593,537
1876	992,764	1902	27,571,121
1877	1,015,087	1903	24,289,878
1878	1,111,100	1904	21,822,839
1879	1,375,691	1905	34,353,456
1880	1,908,745	1906	38,522,239

The Honorable Peter White

PART I

The Early History of Copper Mines

The Discovery of Iron Ore

The Founding of Marquette

First Test of Lake Superior Ore

PROLOGUE.

EARLY HISTORY OF LAKE SUPERIOR.

THIS is the story of a man's life. But what a life it has been and is. The tale will be told as simply and as succinctly as possible, but if there be digressions in the narrative it will be because the theater in which the life has been spent is so stupendous as to compel them. When a man's life is linked with a country it is impossible to chronicle it without chronicling the history of the country. In all new countries there is one man who typifies the region; and while gigantic figures have moved across the face of this marvelous panorama there is none so singularly attractive as he who is the central figure of this rapid sketch. For he is the very embodiment of the spirit of the country in which he lives. Its sheer ruggedness is in his frame as though out of the metal-shot soil he had absorbed the iron of his constitution. If you will take any man who has lived close to nature you will find the most splendid specimen of manhood to be found anywhere. Nature is open, frank and earnest, sometimes terribly so, but always genuine. The men who lie closest to her have these self-same attributes. Their simplicity is charming. Take a man whose life has been with the elements and he is invariably without guile. The men who opened up the American frontier were this sort of men. They stood for law and order and would have it at the price of life. They were the advance guard of civilization. They made it possible for decent men and women to live on the edges of the wilderness. It is a pity that the yellow-backed novelist has been their only biographer; but some day the white light will beat upon them and will reveal them as they really are.

While this a frontier story there is neither blood nor thunder in it. It is not lacking, however, in the element of romance. Indeed it would be impossible to find in real life a more romantic tale. As a work of imagination there is nothing comparable to the Count of Monte Cristo in the realm of romantic fiction. One is held in thralldom by the unlimited wealth of this creature of fiction. Money is the talisman to which all doors open and

to which all achievements are possible. It is easy, therefore, to comprehend the fascination which this story possesses. There is but one other attribute open to the romancist which occupies a like hold upon the mind—and that is the possession of unconquerable physical strength. Hugo utilized this in his character of Jean Valjean. What then is to be said of this story when its base has a wealth which is far greater than that which Dumas could possibly have credited to Edmond Dantes and when the very country breeds men whose powers of endurance rival those of Hugo's hero? Has it not the elements in it out of which to weave the fabric of the great American novel so long expected and so long delayed?

For the story is distinctly American. Indeed there is nothing more distinctly American, though it might have been a Canadian tale had it not been for the foresight of the great Benjamin Franklin, who deflected his pencil a bit on a certain memorable occasion and caused the upper peninsula of Michigan to be included within the American boundary. Franklin did a great many things for his country which dwell more or less freshly in the memory of posterity; but this one thing, long since forgotten, if indeed ever adequately comprehended, was in a material sense the greatest of them all. It was the vague report of mineral wealth in that unbroken region which caused his pencil to make the almost imperceptible deflection upon the map.

For long years, for centuries, it had been known that that region was rich in metallic substances. Copper was the one metal known to exist in great quantities. However, the world may as well not have known, for it never took advantage of the information. The country was too vaguely fixed in the imagination to have a commercial value. As early as 1636 La Garde, in a little book published in Paris, made known the existence of copper in that far country by the unsalted seas. Boucher in his history, published in 1640, asserts that "there are in this region mines of copper, tin, antimony and lead." He also refers to a great island, fifty leagues in circumference, (which is doubtless the one now called Michipocoten) where "there is a very beautiful mine of copper." He also speaks of a large ingot of copper, weighing 800 lbs. and from which the Indians cut off pieces with their axes after having softened it by fire.

The Jesuits, too, in the recital of their missionary work, which extended from 1632 to 1672, frequently speak of the existence of copper. Claude Allouez, whose contributions are the most valuable on the subject, visited the Lake Superior region in 1666. He makes mention of a large mass of native copper which was plainly visible near the shore of the lake and relates that the Indians who passed that way, cut pieces from it. Indeed

he says that the Indians frequently had pieces of copper weighing from 10 to 20 pounds and that they held the specimens in superstitious awe. A map of this region was drawn by these zealous missionaries in 1672, which, to this day, is electrifying in its accuracy. However, the observations of the Jesuits are important from the historical standpoint only; in the commercial development of the region they play no part whatever. It would be interesting to pursue them further were it not for the fact that the present story has to do with a personality whose blood still runs red in his veins.

The first attempt at development was made as the result of an account of the mineral deposits made by Capt. Jonathan Carver, who visited Lake Superior in 1765. His story so captivated Alexander Henry, an Englishman of venturesome spirit, that he organized a company to exploit the resources of the region. Many of the nobility went into the venture and even the King of England became a stockholder. As a matter of record it may be noted that the partners in England were His Royal Highness, the Duke of Gloucester, Mr. Secretary Townsend, Sir Samuel Tucket, Mr. Baxter, consul of the Empress of India, and Mr. Cruickshank; in America, Sir William Johnson, Mr. Bostwick and Mr. Alexander Henry. Henry and his comrades built a barge at Point Aux Pins and laid the keel of a sloop of 40 tons. They sailed in May 1771 for the "island of yellow sand" and found several veins of copper and lead. Upon their return to Point Aux Pins they erected an air furnace. The assayer reported on the ores which they collected that the lead ore contained silver in the proportion of 40 ounces to the ton, but the copper ore a very small proportion indeed. They were accompanied on the next expedition by Mr. Norberg, a Russian gentleman acquainted with metals who found a loose stone weighing eight pounds of a blue color and semi-transparent. This he later carried to England where it assayed in the proportion of 60 pounds of silver to a hundred weight of ore. It was deposited in the British Museum. Henry's later researches appear not to have been crowned with success. His explorations gave such little promise of substantial returns that his English partners refused to further contribute to the enterprise. This adventurous spirit then undertook that series of exploits which have inseparably linked his name with the history of Mackinac island and which makes his character a striking one both for the novelist and dramatist.

Incredible as it may seem, this region, richer in actual value to mankind that any other section of this great round globe, lay dormant for

nearly a century after Henry's luckless venture. The world, lustful for gold as it is, apparently forgot all that had been written about it. Even Michigan, when it was admitted into the union as a state in 1836, protested against the inclusion of the upper peninsula within her borders. She almost went to war over it.* The Lake Superior region, in a commercial sense, is only fifty years old. This is an incontestible but stupendous fact. It brings its entire development within the life of our subject and is the very circumstance which gives to his career its magnificent setting. No other man has moved so continually upon such a stage. It is simply Titanic.

Posterity will forever owe a debt to Dr. Douglas Houghton for the work which he did as the first of Michigan's state geologists. He traversed the south shore of Lake Superior during his investigations five times in a birch bark canoe, and his practiced eye saw at once the great mineral wealth that was awaiting the hand of man. He stated his observations in his report to the government in the most guarded language, for while he recognized as a scientist the wealth of the region, he was conscious also as a practical man of the hazard of its development. He had no mind to lure men to their ruin. The peninsula in those days was a

* When the union was formed the northwest territory, embracing the present states of Ohio, Indiana, Illinois, Wisconsin and Michigan belonged to Virginia. Virginia ceded the territory to the United States upon the conditions made in the ordinance of 1787. Among these conditions was one that the southern boundary line of Michigan was to run through the southerly band of Lake Michigan due east to Lake Erie or the Maumee river. Consequently the territory of Michigan embraced Toledo and a ten-mile strip south of the present boundary of the state. When Michigan formed its constitution it fixed the same boundaries that it had as a territory, established by the ordinance of 1787. Ohio then demanded that Michigan move her southern boundary ten miles further north that she might have the Maumee Bay and opposed Michigan's admission to the union until this was done. Hence the Toledo war, Michigan's troops actually marching in arms to the Ohio border to take forcible possession of this strip. The upper peninsula had been set off to the territory of Wisconsin. To gratify Ohio, avoid a military conflict and to give the Michigan senators (Norvell and Lyon) and its representative (Crary) their seats Congress provided for a convention of delegates to be duly elected by the people of Michigan, to which it submitted the question of giving to Ohio the coveted ten-mile strip and of receiving the upper peninsula in exchange. The convention assembled at Ann Arbor and emphatically rejected this proposition. The upper peninsula, certainly the most valuable portion of the state in natural wealth, was terra incognita at the time and was considered of little or no value. Besides the loss of the harbor of Lake Erie (Maumee Bay), the convention deemed that a surrender to the demands of Ohio would be a palpable violation of the ordinance of 1787. The action of this legal convention was considered final. A few politicians, however, who were impatient to fill the offices to which they had been elected under the state constitution issued without legal authority a call for a popular election of delegates to another convention to act upon the proposition of Congress. There were no legal boards of election then and the qualifications of electors was but little regarded. Consequently the vote was large and nearly all one way in favor of submission. The state rights people, or those opposed to submission, regarded this election as of no validity but the persons chosen at this election met and declared that the people of Michigan had repented of their previous action and humbly accepted the proposition made by Congress. Upon this action Michigan was admitted into the union and the upper peninsula was thus annexed to the state.

veritable Klondike from the standpoint of inaccessibility. His report of 1841 was careful, painstaking and conservative, but notwithstanding its tone men flocked to the region by thousands. Dr. Houghton had foreseen this condition and his heart was wrung for them, for he knew that only a tithe could possibly hope to win success. Indeed claims were abandoned as soon as they were located and in a few years most of the prospectors had left the country. Dr. Houghton's report was largely devoted to copper. Of iron he makes only the merest mention, which is not surprising as his investigations were confined to the shore of the lake and none of the iron deposits come within seven miles of it. Dr. Houghton was an extraordinary man of fine moral and mental fiber. His geological observations of the region are today universally accepted, though it took the later generation of geologists several years to come to his conclusions. The rocks are very old. They precede organic life. They are the result of a great cataclysm and however deep one descends into the earth there is no heat.



DR. DOUGLAS HOUGHTON.
From a daguerreotype.

Houghton's career, brief as it was, was most remarkable. He was born in Troy, N. Y., Sept. 21, 1809, and graduated at the Van Rensselaer school in that city in 1828. He was soon afterwards appointed assistant professor of chemistry and natural history in that institution then under the control of Professor Eaton. In 1830 Gen. Cass and Major Whiting, of Detroit, applied to Prof. Eaton for a person qualified to deliver a course of public lectures on chemistry and geology. Eaton opened a door of his laboratory and summoned Houghton, calling him by the familiar name Douglas. He was so young and slight that they could hardly believe Prof. Eaton to be in earnest. Young Houghton did not hesitate, however. He accepted the invitation and landed in Detroit with exactly ten cents in money. The lectures were so popular that he was persuaded to make Michigan his home. Small in person, a mere boy in appearance, shy and awkward though brave and resolute, it is remarkable that he should so quickly have won the esteem of the distinguished men of the state. He had hardly opened his office in Detroit when he was appointed by the

secretary of war as surgeon and botanist to Schoolcraft's expedition to the source of the Mississippi. Within a period of fifteen years he had been elected mayor of Detroit for two terms in succession by large majorities. He was tendered the presidency of the Michigan university before he was thirty years old.

The work with which this sketch is associated began in 1837 when he was appointed state geologist. It was he, in fact, who nurtured the scheme for a geological survey of Michigan. He proposed to himself a scheme which would include four departments, namely, geology, zoology, botany and topography, each having an official head and all united under the general guidance of the state geologist. The first thing was to bring the matter before the legislature and get its approval. Michigan had just entered the great family of states. She was inexperienced in public work of all kinds. Governor Mason on the passing of the law establishing a geological department appointed Houghton as state geologist. From boyhood Houghton's passion had been the study of the natural sciences. He explored the woods and rocky gorges as a boy. He had made discoveries before he was ten years old. All through his life he looked on science as the great object of his devotion. It has been said that if any man ever lived who was not merely an indoor geologist that man was Dr. Houghton. His enthusiasm for his scientific and professional pursuits was great. It was like a steady fire strengthened and deepened by the fuel of new ideas constantly thrown on the flame. Houghton had no great gift of persuasion; he was no coiner of phrases. Often he would stumble to find the word he wanted, a habit that would make his conversation halting were it not for the fine vigor he displayed in expressing his thought. His social qualities were singularly happy. He could not drop into a store or office without being surrounded by a group of admiring friends. A young man himself he was always associated with the fresh leading spirits of the new state of Michigan. The young men about him were swayed by his ardent temperament and his genius. He was always a leader, and had he lived (he was only thirty-six at the time of his death) would undoubtedly have risen high in the councils of the nation. The following account from an eye witness is well worth repeating:

"Houghton—his diminutive stature, his keen blue eyes, his quick and nervous motions, the strong sense of energy of his words when dealing with matters of science, and his undaunted perseverance when carrying out his designs, made him a notable figure. He was no carpet

knight of science and on his geological excursions never flinched from hard work and exposure. On these occasions he usually wore a suit of gray, the coat having large side pockets and hanging loosely upon his small figure. His hands and feet were very small but the latter were encased in boots that came almost to his thighs. His shockingly bad hat was broad brimmed and slouched and his whole appearance was that of a tattered weather-worn backwoodsman. I remember meeting him a few years later when his scientific mind and energetic body had unraveled the mysteries of the mineral region of Lake Superior and when the great fame of that region had called hosts of scientists to those yet wild shores. He had just landed at Eagle river, fresh from one of his rough expeditions, and was at once hailed and surrounded by men known over the whole world for their scientific learning, to whose figures and bearing his own presented a most striking contrast. Yet these men bowed to his superior knowledge—sagacity I might term it—and one of them frankly said in my hearing that the rough-looking doctor carried more true knowledge in his cranium than all the big heads put together."

It was on the night of Oct. 13, 1845, that Dr. Houghton lost his life on Lake Superior. In an open Mackinac sailboat he was making his way to Eagle river over the rough waters of that lake. They were not far from land. A snowstorm prevailed and the wind was blowing a gale. Houghton was anxious to get round a point of rock, a low broken promontory that shelved to a considerable distance seaward. He encouraged his men to brave the storm. The wind was increasing in fury and his companions proposed that they should go ashore but Houghton, who had great confidence in his own skill, urged them to proceed. Amid the increasing violence of the gale the boat was capsized. They all went under for a moment. Houghton was raised from the water by his trusty companion and friend, Peter, a half-breed who had been with him for several years, and was advised by him to cling to the keel, then uppermost.

"Never mind me," cried Houghton, "go ashore if you can. Be sure that I will get ashore well enough."

The boat was soon righted and all were at their oars again, but the interval was of brief duration. A moment later a wave struck them with such violence that the boat, receiving the blow at the stern, was dashed over endwise and all were thrown again into the water. Two of the men were thrown on the beach in a helpless condition, but Houghton was drowned and his body was not found until the following spring.



THREE IMPLEMENTS FOUND AT THE OLD COPPER MINES.

PART TWO OF THE PROLOGUE.

THE COMMERCIAL DISCOVERY OF COPPER.

THE fact that Dr. Houghton made no mention of iron in his report is significant in that it shows conclusively that the Indians could have had no traditions concerning it. This is important because it brings the discovery of iron within the memory of men now living and relieves it of conjecture and surmise. Of copper it is impossible to determine who first discovered it. There was a people who antedate the present race of Indians that knew of its existence and had uses for it. These people lived and died long before Columbus discovered America, and while the Indians have neither legend nor tradition concerning them the fact that they lived is proved in the mute testimony of nature. Lying about some of the copper mines were stone hammers; underpinning masses of native copper were wooden props in such a state of decay that centuries must have been required in the process; but, above all, out of the thrown-up earth of these early mines, trees had grown, had fallen and decayed and had grown again, marking the centuries with the rings upon them. Of this crude but industrious race the Indians had no knowledge.

Mr. Charles Moore, in his pamphlet entitled "The Ontonagan Copper Boulder in the United States National Museum," says:

"During the winter of 1847-48 Mr. Samuel O. Knapp, the agent of the Minnesota mine, observed on the present location of that mine a curious depression in the soil, caused, as he conjectured, by the disintegration of a vein. Following up these indications he came upon a cavern, the home of several porcupines. On clearing out the rubbish he found many stone hammers; and, at a depth of 18 ft. he came upon a mass of native copper 10 ft. long, 3 ft. wide, and nearly 2 ft. thick. Its weight was more than six tons. This mass was found resting upon billets of oak supported by sleepers of the same wood; there were three courses of billets and two courses of sleepers. The wood had lost all its consistency, so that a knife-blade penetrated it as easily as if it had been peat; but the earth packed about the copper gave that a firm support. By means of the cobwork the miners had raised the mass about 5 ft. or something less than one-quarter of the way to the mouth of the pit. The marks of fire used to detach the copper from the rock showed that the early miners were acquainted with a process used with effect by their successors. This fragment had been pounded until every projection was broken off, and then had been left, when and for what reason is still unknown. From similar pits on the same location came 10 carloads of ancient hammers, one of which weighed 39½ lbs. and was fitted with two grooves for a double handle. There was also found a copper god, a copper chisel with a socket in which were the remains of a copper handle, and fragments of wooden boiling bowls. At the Mesnard mine in 1862 was found an 18-ton boulder that the 'ancient miners' had moved 48 ft. from its original bed."

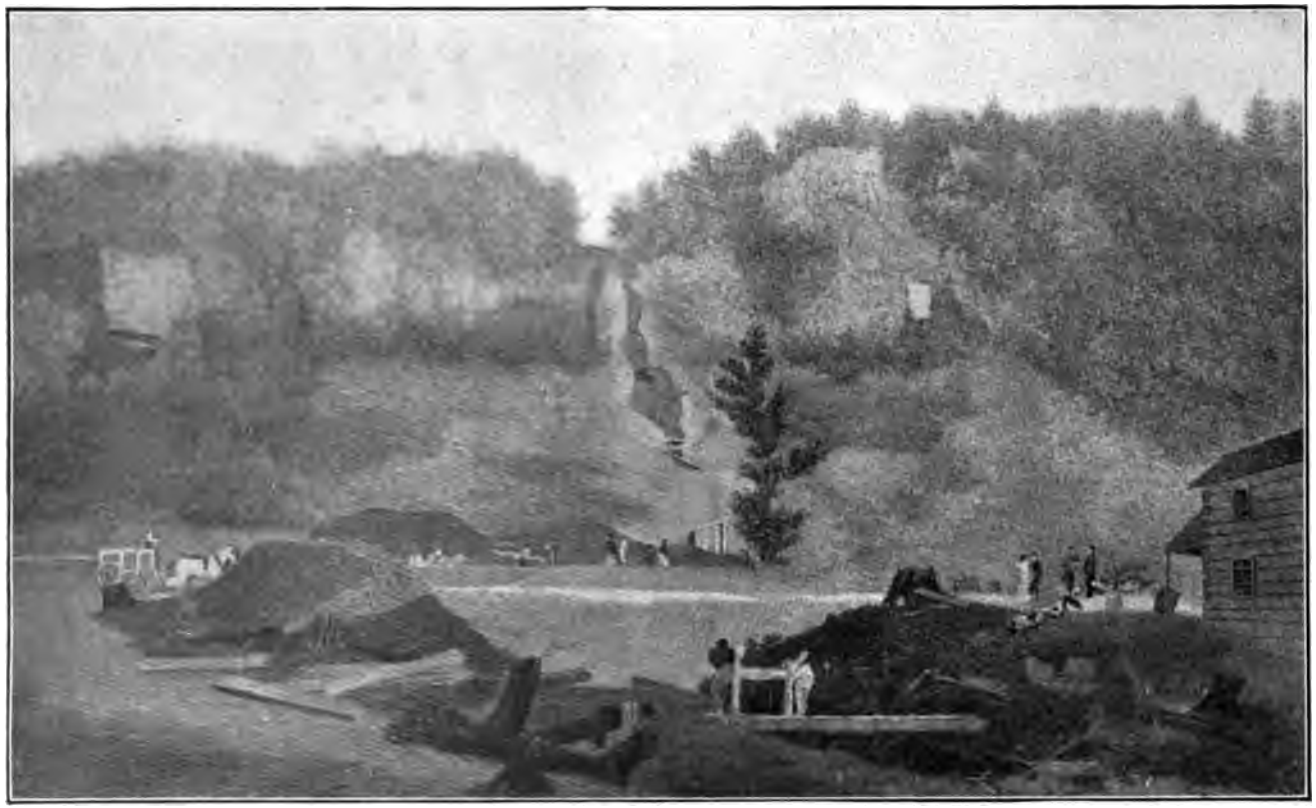
This book is a book on iron; but in investigating the data on which to found it much interesting information concerning the early discoveries of copper in the Lake Superior country was literally dug up at first hand and it was therefore thought best to briefly mention it for the sake of history.

Among those who were attracted by Houghton's reports of the presence of copper in the Lake Superior country was John Hays, of Cleveland, at that time a resident of Pittsburg. It is to John Hays that the credit belongs of making the first discovery of copper in the Lake Superior country in a commercial sense. He had been engaged in the drug business for a number of years at Pittsburg and he determined to visit the Lake Superior region, primarily to regain his health and incidentally to inquire into the mineral deposits. Before leaving he explained his purpose to Dr. C. G. Hussey of Pittsburg, and made known to him his plans. Hussey became much interested in the trip and agreed to pay half of Hays' expenses and to furnish half of the funds required to take up leases of mineral lands. Hays accepted the proposition and left Pittsburg on the 17th of August, 1843, for Cleveland, where he engaged passage on the steamer Chesapeake, commanded by Captain Howe, for Mackinac. The journey from Mackinac to Sault Ste. Marie was made in a canoe. At the Sault he secured passage on the schooner Algonquin, commanded by Captain John McKay, and reached Copper Harbor in good season. At that point he made the acquaintance of Mr. Raymond, a speculator from Boston, and also the government mineral agent, General Cunningham. Raymond had made or entered three leases, one at Copper Harbor, one at Eagle river and the third at Portage Lake. He was anxious to dispose of them, and Hays, being convinced upon examination that they were valuable, made an offer of one thousand dollars for a one-sixth interest in the three leases on condition that his partner, Dr. Hussey, would ratify the proposition. This Raymond agreed to. Hays then returned to Pittsburg and reported the affair to Hussey, who was pleased with it and the bargain with Raymond was closed. They concluded, however, that it would be well to control a larger interest in the leases, and Hays accordingly called upon Dr. Charles Avery, Thomas M. Howe and Dr. Wm. Pettit, all of them men of means. Hays explained the venture to them and they decided at once to join and to purchase an additional three-sixths interest in the Raymond leases. Hays and his associates then owned two-thirds of the Raymond leases. He was authorized by his partners to explore the lands and develop the property. In the spring of 1844 he left Pittsburg for Lake Superior

with nine men, all laborers, except Alfred Rudolph, a geologist. At Cleveland he chartered the schooner Swan, Captain Dunbar, to carry his supplies to Sault Ste. Marie. At the Sault he chartered the schooner Algonquin to take his party to Copper Harbor. After making an examination at Copper Harbor he decided to put down a shaft near Lake Fanny Hoe, uncovering a vein which proved to be the celebrated black oxide, yielding 86 per cent of pure copper. Hays built two houses, one for storage purposes and the other for the men to live in, and mined altogether some twenty-six tons of the black oxide during the season. Dr. Hussey and other members of the company from Pittsburg visited the mine and Hays gave Hussey a memorandum of supplies that were needed to carry them through the winter, which Hussey was to purchase and ship before the close of navigation. Unfortunately, they were not purchased in time to be shipped that fall and Hays was compelled to rely on the kindness of Captain Clary, commandant of a fort which the government had constructed at Copper Harbor in 1844 to protect the settlers from the Indians. Clary furnished the supplies required and they were returned by Hays in the spring. Hays always maintained that had it not been for this succor the company would have been compelled to abandon the enterprise.

In the forepart of September, 1844, the brig John Jacob Astor, commanded by Capt. Ben. Stanard, received at the Sault a cargo of supplies for the United States government, part to be unloaded at Copper Harbor for Captain Clary and the balance at La Pointe. She arrived at Copper Harbor on the night of Sept. 18, 1844, and came to anchor. During the night a violent storm sprang up and it was impossible for the crew to raise anchor to seek shelter under the lee of the islands, as the brig would have drifted on the rocks before they could have got her under sufficient headway for her to obey the helm, and they were therefore compelled to weather it out. The storm increased in severity and on the night of Sept. 19 the large anchor gave out and the Astor drifted on the rocks. Providence was in their favor to some extent, as they were able to save the cargo and their lives, but the brig was totally destroyed by the pounding which she received. The loss of the Astor left the inhabitants at the Sault and all the prospectors on Lake Superior dependent upon the little schooner Algonquin.

About the middle of November Hays started for Eagle river in a small Mackinac boat with George Bailey and a German miner. The distance was about thirty miles. They were out but a short time when one of those sudden wind squalls struck them, which made it almost impossible to effect a landing, but they were finally enabled to reach Cat Harbor, six miles



THE CLIFF MINE IN THE SPRING OF 1845, FROM AN OLD ENGRAVING.



JOHN HAYS.

from Eagle river. The country was a wilderness with no inhabitants except a remnant of the Chippewa tribe of Indians scattered throughout the country and subsisting on game and fish. From Cat Harbor Hays went to Eagle river on foot, and on Nov. 18, 1844, discovered the Cliff mine, famous for being the first mine ever developed in the Lake Superior country and the first that yielded pure or native copper in the United States if not in the world. This was considered a great discovery throughout the whole metallurgical world. In England the discovery could not be credited, because the British Museum contained no specimens of metallic copper, and it was not known to exist. Not being prepared to do any mining at that time Hays returned to Copper Harbor. It was the middle of winter now, but Hays felt that his partners should be informed of his wonderful discovery. It was important also that the vein should be worked extensively and at once. He endeavored to hire two men to carry a message to Pittsburg overland, as there was no other way to reach that point, but it was impossible to get anyone to undertake the trip. It was a great distance through an unknown wilderness and no white person had ever undertaken the trip on foot. Hays finally decided to go himself and succeeded in hiring two Chippewa Indians to accompany him as guides and to carry his provisions and camp utensils. The story of this trip, the first ever made by a white man, is probably best told in Hays' own words as related shortly before his death,* as follows:

"I obtained these Indian guides through the influence of Rev. John Pitzel, a missionary located at L'Anse Bay. I borrowed of Charles Brush, a sutler at Fort Wilkins, one hundred dollars to enable me to pay the Indians and other expenses of the trip. On the 18th of December, 1844, we left the mission at L'Anse Bay and began our journey. Before we started I purchased snow shoes, blankets, flour, pork, tea and sugar, cooking utensils, two axes, also a gun and a dog, which comprised our outfit. After we got fairly started, we made, some days, very good time; then again it would become very fatiguing on account of having to cut our way through the underbrush. At night we would clear away the snow for our camp, and then erect a wigwam, as the Indians call it, to shelter us for the night. This was made with pine boughs, evergreen and bark. Thus, with our blankets and a large camp fire made of birch bark and logs, we managed to obtain a good night's rest. We could bake sufficient bread at night to

*John Hays was born at Zelienople, Butler County, Pa., on Oct. 9, 1804, and died in Cleveland in April, 1902, at the age of ninety-seven years and seven months. Through the strange irony of fate Hays did not profit in the riches which he unearthed. He added millions to the wealth of the world but none of it clung to his own fingers.

last us through the day. This, with our tea and pork and occasionally a rabbit or partridge, which we shot, enabled us to perform our day's journey. In ten days we reached Kitsen's station on the Menominee river, in Wisconsin, fifty miles from its mouth. The distance traveled was about two hundred miles. On account of the hard country we had to go through, the underbrush and heavy snow—often on our hands and knees—and cumbersome snow shoes, made it impossible for us to make more than twenty miles in a day. In crossing the Menominee river we unfortunately lost our dog. The ice at one place in the river had given away, and he jumped to swim across. The current proved too strong and it carried him under and we never saw him again. Before reaching Kitsen's we were in close quarters for provisions, and the Indians would undoubtedly have killed the dog and eaten him if he had not been drowned. As I was very much attached to him it was just as well, perhaps, that he was drowned, as it would have made us all feel bad to kill him.

"Late in the evening of that day we struck an Indian trail, and in a short time we heard a dog bark, and we knew that there was an Indian camp close by, which we soon reached at the Great Falls on the Menominee. The Indians at the camp had obtained some liquor and they were all intoxicated, and my Indians were somewhat timid in approaching the strangers, for they were certainly a hard looking lot of red men. But we were too hungry to be detained through fear, and we finally approached them and explained to them our condition, and they invited us to partake of some supper with them, which we did without much ceremony. The meal consisted of boiled fish (sturgeon) and flour mixed with it, making it into a kind of soup or paste. Although not very palatable, we were in prime condition to do it justice. I purchased of them some flour, venison and fish, and left them next morning at daybreak, all sound asleep from their night's debauch Near Kitsen's we found a family from the state of Maine. They were engaged in hauling saw logs for a saw mill they were building. They insisted upon us taking dinner with them and we accepted the invitation. It was appreciated, for it was the first good meal we had partaken of since we left L'Anse Bay. The Indians had a large quantity of fish (sturgeon) piled up like cord wood and frozen hard. This they had to depend on for their living during the winter.

"After arriving at Kitsen's Station, which is an agency or station of the American Fur Co. (Kitsen was a Canadian and was married to an Indian woman; he acted as agent for the fur company, bought furs and did some farming) I settled with my two Indian guides and paid them,

according to agreement, one dollar per day from the time they started until they returned to their homes at L'Anse. I also made a contract with them to meet me on my return trip in March, 1845, at Kitsen's. I hired Mr. Kitsen to carry me in his sleigh to Dr. Hall's saw mill, at the mouth of the Menominee river, on Green Bay. Dr. Hall was a native of New York state. He owned a large saw mill at this point, the first one built on the river. He also practiced medicine and had a fine family. I here met the mail carrier, Mr. Johnson, and he accompanied me as far as the town of Navarino,* on the Fox river, at the head of Green Bay. I intended to make our next stopping place at Mr. Powell's at the mouth of the Peshtigo river; but night overtook us and we were looking for a place to camp when we heard a dog bark, and after tracing it up we came to an Indian wigwam and found it occupied by an Indian and his family. We remained with them over night and left them early in the morning and arrived at Powell's about 9 o'clock a. m. Powell was a trader and farmed some. We remained with him that day and I hired him to carry me to Green Bay in his sleigh, a distance of twenty-five miles, for which I paid him five dollars. Powell's horse had been used for racing in his younger days and now in his old age he was stiff from the hard usage, and we had to assist him to get up, but after he warmed up he showed his mettle. After we arrived at Green Bay I secured the services of a Frenchman to carry me to Fond du Lac, Wis., in his sleigh, for which he charged me four dollars. This town at that time was small and consisted of the following trades or business: One country store, keeping a little of everything; one hotel, one livery stable, a blacksmith shop and a doctor. From here to Milwaukee I was compelled to foot it; from there to Chicago by stage; then to Marshall, Mich., also by stage; from this town to Detroit by the Marshall & Detroit railroad, a temporary affair, made of strap rail.

"At Detroit I met Dr. Houghton, the state geologist. He examined some specimens I had brought with me and was astonished as well as interested in the discoveries made. I took a stage for Pittsburg by way of Cleveland, and reached the former place about the 10th of January, 1845. I immediately reported to my associates, Hussey, Howe, Avery and the others, and they were surprised and much elated with the enterprises. We then settled the business up to date, the whole expenditure amounting to $1,854. Our investment was considered a very valuable one, and we could have sold it for $250,000. We determined to push the development of the

*There was no such town of Navarino. Green Bay at that time was divided into two wards, the lower one being Navarino and the upper one Astor. John Jacob Astor owned a large portion of the platted portion of Astor.

property as far as possible. I remained in Pittsburg about six weeks, looking up supplies and other matters, and then I returned to Lake Superior by the same route, the Indians meeting me as agreed upon at Kitsen's, near the mouth of the Menominee. We reached Copper Harbor on the 21st of March."

During Hays' absence the miners at Copper Harbor had taken out and had ready for shipment the twenty-six tons of black oxide of copper, which was sent to Roxbury Chemical Works, Boston, Mass. It yielded eighty-five per cent of pure copper. During the summer of 1845 Hays explored the district at Eagle river and found a large mass of copper weighing 3,100 pounds at the base of the cliff. Later a mass of native copper weighing eighty-one tons was unearthed. As he was not well he had the company relieve him and Dr. Pettit of Pittsburg, took charge of the property. Hays returned to Pittsburg, and remained there until the spring of 1846, the Cliff mine meanwhile undergoing development. He returned to Eagle river in 1846 and remained there until the spring of 1847. Through his advice Dr. Edward Jennings was employed to superintend the mining operations, as he was an expert in mining copper, having had large experience in England. As the Cliff mine was running a large amount of copper in masses from one ton up to eighty-one tons, it became necessary to erect smelting works, so as to put it in marketable condition, that is to cast it into ingots weighing ten pounds, more or less. For this purpose Hays went to England to examine English furnaces, carrying with him samples of copper, one piece weighing 3,852 pounds, and others from one up to ten pounds. The large piece was sold to King's College on the Strand and the smaller specimens were given to the British Museum. There were no furnaces in England, however, for smelting mass copper. The English obtained their copper from ore combined with sulphur known as sulphate of copper, which had to be crushed and then washed, yielding but five per cent of copper. The specimens that Hays left in England created great excitement among scientific men, especially geologists, and did much to enlist the interest of capitalists in the wonderful mineral region.

Hays returned to the United States determined to construct a furnace on a plan of his own, provided that his associates were satisfied with it. The company at once decided to construct the furnace and it was completed at Pittsburg during the year 1848. The top was removed by a crane and masses of copper hoisted in by the same means. It proved to be a great success. Hays superintended the work for the first eighteen months.

The first batch of ingots was sold to Robert Fulton of Pittsburg. The first sheet copper that was rolled west of the Alleghanies was rolled from one of Hays' ingots at Shoenberger's mill and by Mr. Lutton and his son, Wm. H. Lutton.

The Cliff mine proved a profitable investment, earning for its owners, the Pittsburg & Boston Mining Co., in a period of ten years, from 1846 to 1856, $3,858,000 upon an original assessment of $108,000.

PART THREE OF THE PROLOGUE.

THE DISCOVERY OF IRON ORE.



WILLIAM A. BURT.

THE original discoverer of copper in the Lake Superior country was some member of a prehistoric race. But with iron the story is different. It is only a little while ago. Iron was first discovered by William A. Burt, United States deputy surveyor, and party who were engaged in surveying the upper peninsula. In the party were William Ives, compassman; Jacob Houghton, barometerman; H. Mellen, R. S. Mellen, James King and two Indians named John Taylor and Michael Doner. While running the east line of township 47 north, range 27 west, they observed on Sept. 19, 1844, by means of the solar compass the most remarkable variations in the direction of the needle. These fluctuations greatly excited Mr. Burt, who was the inventor of the solar compass, and when the compass indicated a variation of 87 degrees he could contain himself no longer.

"Boys," said he, "look around and see what you can find."

Each member of the party began an independent search and found outcroppings of iron ore in great abundance. In fact they could not fail to find it, for a mere rip of the sod revealed the ore. Mr. Burt was well advanced in life and was much more interested in the performance of his compass than he was in the deposits of ore themselves.*

* Wm. A. Burt was born in Worcester county, Massachusetts, June 13, 1792. In 1792 he removed with his parents, Alvin and Wealthy Austin Burt, to Montgomery county, New York. He had no advantage of public schools, but at 14 years of age had mastered surveying as then

"How could they survey this country without my compass," he exclaimed, and after the manner of an old man, he repeated the remark a score of times.

It is worthy of note that no member of this party of surveyors made any effort to profit by the discovery. It does not seem to have occurred to any of them to preëmpt one of the locations. They noted in their report and on their maps that iron existed—and that was all. The cause of this indifference doubtless lay in the knowledge of the almost insuperable obstacles which would have to be overcome before the iron could reach

known, and had gained much knowledge of astronomy. He worked on the farm during the day, and, like the proverbial pioneer, studied at night by the aid of a pine knot. At 17 years of age he removed with his father's family to Erie county, New York, which was then in the far west. He saw service in the war of 1812, and in 1813 he married Phoebe Cole. In 1817 he made a journey as far west as St. Louis, doing odd jobs of surveying along the route. In 1822 he removed to Michigan and first built a saw mill at Auburn, Oakland county. He endeavored to get employment as a government surveyor, but failing in this, bought a tract in Washington, Macomb county, in 1824.

From 1824 to 1832 he was engaged in mill building and local surveying. In 1826 and 1827 he was a member of the Michigan Territorial Council and did much towards inaugurating that great improvement, the St. Mary's Falls Ship Canal. From 1831 to 1834 he was county surveyor of Macomb county.

In 1833 the United States surveyor general appointed him United States deputy surveyor for the district northwest of the Ohio. He at once went into his field northward of Ft. Gratiot, on the borders of Lake Huron.

Mr. Burt found, what all surveyors had previously discovered, that the variations of the magnetic needle led to inaccuracy in surveys. Mr. Burt did what other surveyors had not done—discovered a remedy for the variations of the needle. He thought that if the local disturbances which led to these variations could be overcome, surveyors might be much more accurate than they had been, and this led, at length to the invention of the solar compass by which the courses and distances are controlled by influences far beyond the reach of terrestrial disturbances.

In 1835 he exhibited a model of the compass to a committee of the Franklin Institute, at Philadelphia, the first scientific body of this country, and was granted a Scott's legacy medal. On Dec. 14, 1840, he exhibited to the same institute a perfect solar compass, for which he received the highest commendation. In 1847 he wrote a manual for the use of the solar compass. In 1851 he visited the World's Fair in London and received a prize medal for his solar compass from Prince Albert, president of the Royal Commission.

The solar compass is an astronomical instrument. The sun is utilized in working with it, although surveyors well versed in astronomical science sometimes use other planets. In the use of the common surveyor's compass the only means available to determine the azimuth, or the true meridian, is an observation of the transit, or the elongation of the pole star at night, which can be done only on a clear night. Surveyors often, to secure good work, were compelled to cut down trees and erect stakes, which was very laborious and expensive.

Various causes led to the deflection of the magnetic needle. Among them are local causes, hid in the earth's crust, heat and cold, thunderstorms and the heat or magnetism of the body of the operator. Often the pivot on which the needle swings would become blunt and the needle not traverse twice alike. The solar compass is independent of the needle although it is constructed with one and its use is invaluable in magnetic forces and in recording the variations from the true meridian. It was said of Burt's compass that it seized a sunbeam as it fell and compelled it to point out the magnetism and poles of the earth, and thus determine the latitude, true meridian, azimuth, variation of the magnetic needle and local time, a mode of surveying independent of the magnetic needle.

Mr. Burt possessed inventive faculties of the highest order. His last invention was the Equatorial Sextant, though he did not live to perfect this instrument. He also invented the first typewriter. He died at his home in Detroit, August 18, 1858.

its market. However it is strange that none of them recognized the fact that time was the only asset required to make them wealthy.

The work which William Ives did upon this survey was unusually faithful and historically important. He performed it with the utmost care and diligence, and indeed overcame many physical obstacles which would have daunted a less courageous spirit. At one time, being wounded badly in one foot, the party had to leave him at the mouth of the Carp river. The next day Ives appeared among them at what is now Negaunee, having traveled the entire distance upon a pair of improvised crutches. Any



THE SITE OF THE OLD JACKSON FORGE ON THE CARP RIVER, NEAR NEGAUNEE, SHOWING REMAINS OF OLD DAM FORGE, BUILT IN 1847-48.

one who has traveled over the face of this rugged country will appreciate the heroism of this performance.

It is a singular circumstance that the knowledge of the discovery, made by the surveyors, while duly recorded in their reports, seems not to have been known by any one who could profit by the information. They related the discovery to the Indians whom they met, but it seems not to have

reached the ears of any white man. Among those to whom they made mention of the existence of iron was Louis Nolan, a half-breed, living at Sault Ste. Marie, and an old Indian chief named Madjigijig, whose wigwam was at the mouth of the Carp river.



PHILO M. EVERETT.

In the spring of 1845 P. M. Everett,* of Jackson, Mich., excited by the reports of the existence of copper and silver in the Lake Superior region, made a journey into that country accompanied by four men. When he reached Sault Ste. Marie he met Louis Nolan, who related to him the discovery of the iron deposits by the surveyors and volunteered to show him the way. Everett had not heard of iron, but accepted the offer of Nolan and employed him as a guide. Nolan was a physical giant, as hard as a rock, and proved an invaluable servant. He escorted the party as far as Teal Lake, but was unable to locate the iron deposits. Everett then started for Copper Harbor, but on the journey thither fortunately fell in with Madjigijig, the old Indian chief, to whom they related their fruitless search. He at once undertook to show them the deposits and piloted them directly to the Jackson Mountain and then to the Cleveland Mountain. These terms, Jackson and Cleveland, are used because it was by these names that the deposits were later known. Madjigijig's superstition regarding the deposits was such that he would not approach them directly, so that the actual discovery of the Jackson deposit was made by two members of Mr. Everett's party—S. T. Carr and E. S. Rockwell. In reward for the services of the Indian on this occasion the officers of the Jackson company subsequently gave him a written stipulation, of which the following is a copy:

*Philo M. Everett was born at Winchester, Conn., Oct. 21, 1807. He settled in Jackson, Mich., but removed his family to the upper peninsula in 1848. He appears not to have profited personally by his great discovery, for a few years later he is to be found employed in quarrying ore for others from the very mines which he had discovered. He died at Marquette, Sept. 27, 1892.

"RIVER DU MORT, May 30, 1846.

"This may certify that in consideration of the services rendered by Madjigijig, a Chippeway Indian, in hunting ores of location No. 593 of the Jackson Mining Co., that he is entitled to twelve undivided one-hundredths part of the interest of said mining company in said location No.

"A. V. BERRY, Superintendent,
"F. W. KIRTLAND, Secretary."

The agreement on the part of the company was never fulfilled and Madjigijig finally died in poverty. However, it is true that none of the original members of the Jackson Mining Co. got anything out of their holdings, and Madjigijig therefore fared upon an equal basis with them. But this is overstepping the development of the story.

Everett's party had a number of permits in their possession, issued by the secretary of war, to preempt mineral locations, and one of them, made out to James Ganson, was used upon the Jackson location.* The party then gathered up a little of the ore and returned to Jackson, Mich., with it. The following spring another expedition was fitted out by the Everett party, consisting of F. W. Kirtland, E. S. Rockwell, W. H. Munroe and A. V. Berry, to visit the Jackson location. They built a house upon it and returned to the mouth of the Carp river with 300 pounds of ore upon their backs. Some of the party remained behind to keep possession of the location, but Berry journeyed on to the Sault with the ore. At the Sault he met J. Lang Cassels of Cleveland, a noted mineralogist, who had been sent into the peninsula by a number of Cleveland gentlemen to report upon its mineral resources. These gentlemen were anxious to develop the mines, should any of promise be found. Berry, learning that the men whom Cassels represented were of the highest integrity, made known the Cleveland location to him, on condition that the expenses of keeping possession and making roads should be borne jointly. Dr. Cassels took Berry's canoe, visited the location and secured it by a permit. Berry pro-

* Mr. Everett in a letter to Capt. G. D. Johnson, dated Jackson, Mich., Nov. 10, 1845, says:

"I left here on July 23 last and was gone until October 24. I had considerable difficulty in getting anyone to join me in the enterprise but I at last succeeded in forming a company of thirteen. I was appointed treasurer and agent to explore and make locations, for which last purpose we had secured seven permits from the secretary of war. I took four men with me from Jackson and hired a guide at the Sault, where I bought a boat and coasted up the lake to Copper Harbor, which is over 300 miles from Sault Ste. Marie. There are no white men on Lake Superior except those who go there for mining purposes. We incurred many dangers and hardships. We made several locations, one of which we called Iron at the time. It is a mountain of solid iron ore, 150 feet high. The ore looks as bright as a bar of iron just broken. Since coming home we have had some of it smelted and find it produced iron and something resembling gold—some say it is gold and copper. Our location is one mile square and we shall send a company of men up in the spring to begin operations. Our company is called the Jackson Mining Co."

ceeded to Jackson, Mich., with his ore, where he made two attempts to smelt it in a cupola furnace and failed. Some of the ore was then taken to Mr. Olds of Cucush Prairie, who succeeded in making a fine bar of iron from it in a blacksmith's fire, the first iron ever made from Lake Superior ore.



ARIEL N. BARNEY

In the summer of 1847 the Jackson company constructed a forge on Carp river, about three miles from the mine, and on Feb. 10, 1848, the first iron ever made in the Lake Superior region was made in this forge by Ariel N. Barney. A month later the forge went out of commission, being carried away by a freshet. Mr. Everett returned in the summer of 1848, repaired the dam and resumed the manufacture of blooms. The first iron made was sold to E. B. Ward, who used it in the walking beam of the steamer Ocean. The forge had four fires, from each of which a lump was taken every six hours, which was placed under the hammer and forged into blooms four inches square and two feet in length. The daily product was about six tons, requiring two teams of six horses each to convey the blooms to Marquette, which lay ten miles away. The roads were of unvarying horror and breakdowns were frequent. The same difficulty which attended the getting of the blooms to port attended the getting of supplies to the forge—the ore and charcoal. After struggling with insufficient power, for some time the Carp river ran pretty low, with the frightful grades and the unspeakably bad roads, the forge met the death to which it was born.

Meanwhile there lived at Mackinaw a man of extraordinary qualities, who was destined to give the central figure of this story a prodigious start in life. His name was Robert J. Graveraet. Of him it might be said as Hamlet said of his father:

> The front of Jove himself—
> An eye like Mars, to threaten and command,
> A station like the herald Mercury,
> New lighted on a heaven-kissing hill,
> A combination and a form indeed
> Whereon each good did seem to set his seal
> To give the world assurance of a man.



CHARLES BAWGAM, THE CHIPPEWA CHIEF.

Graveraet was not an ordinary man. He would be singled out as a natural leader among thousands. He was ambitious; he had a will of iron; he had the faculty of winning men; he was generous, gentle, but firm; he had great intelligence and energy; and his mother had given him a constitution that did not know the meaning of fatigue. For grace of bearing and beauty of proportion Graveraet challenged instant admiration; and moreover his muscles were of steel. This man recognized more quickly than any of his associates the immeasurable value of the iron deposits. He believed that he had a claim upon two of the most valuable of them—the Cleveland and the Lake Superior. The Lake Superior was a third outcropping lying not far from the Cleveland mine



ORIGINAL JACKSON MINE SHOWING STUMP UNDER WHICH IRON ORE WAS FIRST DISCOVERED IN LEFT FOREGROUND.

and is called in this story Lake Superior because it was by that name it subsequently became known. Graveraet induced John H. Mann and Samuel Moody to undertake their preëmption. A little later Dr. Edmund C. Rogers went upon the Lake Superior location to assist in obtaining preëmption rights. How sadly Graveraet was mistaken regarding his priority of right will later be revealed.

In the summer of 1848 Graveraet met at Mackinaw Dr. Edward Clark of Worcester, Mass., a representative of Mr. Waterman A. Fisher of

Worcester, who had become interested in the accounts of the mineral wealth of the region and who had sent Clark to investigate. Fisher was the proprietor of a cotton factory and was reputed to be a wealthy man, as wealth was accounted in those days. Clark, like all the rest, was on the copper scent until he fell in with Graveraet. Graveraet induced him to stop at Carp river to inspect the iron mines. He took him to the Cleveland and Lake Superior locations, where Moody, Mann and Rogers were holding possession and showed him the apparently inexhaustible deposits. He also took him to the Jackson forge and gave him a bloom of iron and some ore. Clark returned to Worcester, where the iron was drawn into wire at a factory and proved most excellent. He had no trouble in enlisting Fisher's aid in developing the iron mines. Graveraet, too, appeared at Worcester in the early winter, having made the journey from Marquette to Saginaw on snow shoes. Graveraet had perfect mastery over his physical resources and a journey of this character was as nothing to him. Fisher was charmed with the man. He readily assented to advance the necessary capital, Graveraet offering as security leases from Moody and Mann upon the Cleveland location and from Rogers upon the Lake Superior location. A. R. Harlow, of Worcester, a practical mechanic, was also induced to join forces, and he accordingly constructed the necessary machinery for a forge.



JACKSON STUMP. DETAIL OF PRECEDING PICTURE.

In March, 1849, the Marquette Iron Co. was organized, consisting of W. A. Fisher, A. R. Harlow, E. B. Clark and R. J. Graveraet. It was decided to ship the machinery to Marquette as soon as it should be finished, and Harlow was to follow immediately thereafter. Graveraet returned at once to Mackinac Island to engage a number of workmen for the mines, because beyond the preëmptors and a few copper miners there were no white men whatever in the Lake Superior region. He had no difficulty in enlisting the aid of nine men and a boy, though to all accounts the region to which he invited them was as bleak and barren as the proverbial wilderness. It is with the boy that this narrative is principally concerned.

In April, 1849, Graveraet and his party set forth for the promised land in the little steamer Tecumseh. At the Sault they transferred their few belongings to a Mackinaw barge, and after eight days of rowing, towing, poling and sailing reached Carp river and anchored at Indian Town, now known as Marquette. The first person to greet the little party was Charley Bawgam,* a full blooded Chippewa Indian, lithe as a sapling and in the prime of life. He was the son of Shauwano of Sault Ste. Marie, the last of the tribal chiefs to make his headquarters at the rapids. Bawgam's sister, Lisette, had married at Sault Ste. Marie, John Logan Chipman, son of a learned judge of the Supreme Court of Michigan and himself elected many times judge of the Superior Court of Detroit, and later a member of Congress. Bawgam invited the party into his cedar wigwam and his wife Charlotte, who was the daughter of the Chippewa chief, Madjigijig, cooked a fine supper of fresh venison, wild duck, geese, fresh white fish, potatoes, bread and coffee. The place at which the little party landed, the most interesting member of which was the hero of the present tale, was known as Jackson's landing, a name which would indicate, of

* Bawgam died in January, 1903, having reached the age of nearly 100 years. He had been for fifty years one of the characters of the upper peninsula, a splendid specimen of a dying race. It was said of him that if he had had the advantages of education he would have rivaled Daniel Webster in eloquence. His face while essentially Indian was nevertheless intellectual in cast. Bawgam was certainly a link with the past. One little story will suffice to illustrate what the life of the Chippewas was before the white man came to inhabit the peninsula. A colony of the Chippewas lived on Presque Isle in peace; but because many of them had never drawn bow or wielded the tomahawk in combat they were called squaws and were sorely taunted by a tribe of warlike Indians who lived a considerable distance in the peninsula. Their insults finally became so insufferable that a band of the Presque Isle Chippewas was organized to give them battle. Before they set out one of their number was appointed as a runner whose duty it was, when they approached the enemy, to station himself in some secluded spot where he might watch the outcome of the combat unobserved. They stole upon their enemy silently and began the fight with such suddenness and swiftness that, though they were outnumbered four times over, they slew half their foes and put the other half to flight. The retreating enemy, however, overcome with chagrin at being vanquished by so slight a number and by a colony which they had hitherto held in contempt, rallied when their conquerors supposed them to be in full retreat, and returned to the attack with great fury. They slew all, except the runner, who witnessed with dismay the annihilation of his comrades and who later returned to tell the story which established forever the courage of the Presque Isle Chippewas among the tribes of the north. The runner was seen by Gov. Cass soon after his return and the governor listened with much interest to the story of the adventure.

The writer saw Bawgam in the spring of 1902. He was living with his wife Charlotte in a little cabin on Presque Isle which had been built for him by Peter White and Alfred Kidder. The framework of his great figure was erect, gaunt and giant-like and indicates clearly what a powerful man he must have been. He spoke of the blindness which had come upon him in 1899 with touching simplicity. His large grief was not that he could not read or view the myriad delights of nature, but that his remaining solace had been taken from him. "I can no longer fish," said he; and there was a world of meaning and of sorrow in the words. For it bespoke the great love of outdoor life and the Indian's inherent right to wrest his living from nature. In the 93rd year of his age a miserable game warden put the old man in durance for setting a sucker net in a stream. Justice Creary, however, before whom the old Indian was taken, had a strong enough sense of the fitness of things to peremptorily order his release.

course, that they were not the first white persons that had landed there. In fact there were two small log houses at the point and five or six birch bark wigwams, the whole inhabited by Indians. Beyond this small clearing was the forest and thicket.

The next morning Graveraet gave each member a pack strap and blanket and directed him to use his own discretion in putting into the pack what he thought he could carry a distance of twelve miles up hill. Graveraet put into his own pack more than twice the quantity that any other member of the party could carry, and thus equipped the caravan started for the much-discussed iron hills. When they had journeyed about two miles Graveraet observed that one member of the party, a well-formed though slender lad, was staggering under his load, and as he passed him whisked it from off his shoulders and threw it upon his own much heavier pack as though it had been a feather. Even then the lad had difficulty in keeping up with Graveraet's giant strides.

"Jump on my shoulders, Peter," invited the leader.

There was no doubt of Graveraet's ability to carry Peter, pack and all, but the boy's pride was a bit wounded. When the party halted at a little brook for lunch, Graveraet again reached for the stripling's pack after lunch was over.

"I will carry my own pack, sir," said Peter.

He has been carrying it ever since and several others along with it. And thus we meet our hero—Peter White of Marquette—who, man and boy, has had the most fascinating career of anyone who has ever been identified with the history of the region of the great father of lakes. The theme is fruitful.

CHAPTER I.

THE JOURNEY TO THE IRON MINES.

PETER WHITE was born at Rome, Oneida county, New York, on October 31, 1830. The Whites had lived at Rome for a great many years and Peter is bound to that town today by ties of great affection. A scene was enacted there that is worthy of a place in the annals of American history, for it was out of his grandmother's petticoat that the first flag of the United States was made. The first recorded legislative action by the American congress in session at Philadelphia for the adoption of the stars and stripes was in a resolution offered Saturday, June 14, 1777, as follows:

"Resolved that the flag of the thirteen United States be thirteen stripes, alternate red and white; that the union be thirteen stars, woven in a blue field representing a new constellation."

Although this resolution was not officially promulgated by the secretary of congress until Sept. 3, 1777, it seems to be well authenticated that the first flag hoisted as the stars and stripes was unfurled by Capt. Stephen White on Friday, Aug. 6, 1777, over Fort Stanwix, commonly known as Fort Schuyler, then a military post on the present site of the city of Rome, Oneida county, New York. This flag was hastily constructed from a soldier's white shirt, an officer's blue overcoat and a woman's red petticoat. Captain Stephen White was Peter White's grandfather and in his zeal to make an emblem for the new republic he employed one of his wife's petticoats.

Peter White's first trip into the world was made at the age of three years when he began an independent exploration of the fastnesses of the city of Rome, thus giving an early evidence of that intrepid nature which has made his life so notable. There is lingering in his mind now only vague memories of his first incursion into the world which consisted largely of amazing high buildings, devious and bewildering alleyways, vast stretches of unknown woodland and an endless procession of people, strange and mysterious, who were scurrying busily in all directions without

paying special heed to the lone adventurer. Meanwhile two persons with whom he had hitherto made his abode, namely his father and mother, were in hot but fearful pursuit which lasted until the hardy young explorer was found domiciled in a great castle, ten blocks from home, which had capitulated upon his repeated attacks and where he was enjoying the fruits of his conquest in the form of a piece of cake. The young soldier of fortune was hustled off home, given a bath and put to bed. He seems now to have lain dormant for five years waiting for other worlds to conquer. At any rate nothing more is recorded of him until he reached the age of nine years when his parents removed to Green Bay, Wis., and planted our young hero at the base of that country which was to become singularly his own. The little lad that was trotting along the wagon road to Green Bay, knocking off the tops of the tall grasses with a switch, was eventually to give the country his name. The upper peninsula of Michigan is frequently called "Peter White's country."

During Peter White's stay at Green Bay, Louis Phillippe visited the place as the guest of Eleazer Williams, a half-breed of great character and force. Peter rode with Louis Phillippe to Eleazer Williams' home on the banks of the Fox river but it must be confessed that he rode with the driver. He remembers the heir to the throne of France as a man of distinguished bearing and gracious manners. Meanwhile Peter was just an ordinary boy going to school and soaking into his system such knowledge as a boy could get. He was an earnest, eager student but the piping schoolboy times were not to his liking and he longed to make his own way in the world. At the age of fifteen he left home. He might, indeed, be called a fifteen year old runaway for he left home without the consent of his parents and while he corresponded with them faithfully he did not see them again for ten years. The world's base to him at that time was Mackinac Island, whither he went. It was just when the copper excitement was at its height and the imagination of Peter was greatly inflamed by it. In a little while he left for the Sault in the hope of reaching the promised land. In this venture he was unsuccessful and returned to Mackinac Island. It is interesting to note that he arrived at the Sault on the very day that James Schoolcraft was murdered and found the little settlement in a perfect turmoil of excitement over the crime. One of Peter's most vivid recollections is that of bending over the body of the murdered man who was lying in the grass face downward with a bullet through his heart.

On June 10, 1847, preparations were being made at Sault Ste. Marie

to haul the schooner Uncle Tom over the rapids. Preparatory to doing so Capt. Brown of the schooner Swallow, John G. Parker, Capt. John Stanard, E. G. Seymour, Tom Ritchie, William Flynn and Dr. Prouty got into a yawl to go over the rapids to sound a channel for the schooner. Capt. Brown was steering the boat, Capt. Stanard was forward piloting her down and Parker was pulling the stroke oar. When the yawl came to the first fall she took in some water and Parker took the precaution to pull off his boots. When the yawl got to the big fall she filled forward, weered badly in the eddy, then capsized and floated down the river bottom-side up. When opposite McKnight's dock, Capt. Brown and Mr. Parker clung to her bottom and were taken off by Capt. Redmund Ryder. Shawano, the Indian chief, who was out fishing in his canoe, saw Seymour go down. He paddled over to the spot and succeeded in pulling him up with his spear. All the rest were drowned. That very afternoon Capt. Moore of the schooner Merchant in going ashore at the Sault suffered a broken leg by the oar striking the dock and as soon as Capt. Brown got into dry clothes he was asked to take the Merchant up to Portage Entry. Just as she was about to sail an active lad, who was extremely desirous of reaching the copper country, asked for the privilege of working his passage on her. He was refused because the boat had a full crew and a heavy passenger list. It was fortunate for him and for this tale that this was so, for the boy was Peter White. The Merchant never reached Portage Entry. She sank near Grand Island with all on board.

Among the vessels lying at the dock at Sault Ste. Marie was the schooner Bela Hubbard, then plying regularly between Detroit and the Sault. Upon this vessel Peter White managed to secure an humble position. This constitutes now an interesting period of his life because it embraces all that is maritime in it. He sailed before the mast, as the novelists say, on the schooner Bela Hubbard—and on the schooner Bela Hubbard only. After the vessel had made about half a dozen trips between Detroit and Sault Ste. Marie she capsized off Thunder Bay island. Fortunately no one was drowned. After considerable buffeting they managed to reach the island and were taken to Bay City by the propeller Chicago.* The crew volunteered to work their passage back to Detroit and were all engaged. Before shipping, however, they obeyed the natural instinct to see what manner of place Bay City might be and improved the few hours of daylight in that pursuit. In returning to the vessel after dark they had to crawl

* The Chicago, Vandalia and Oswego were the first screw boats to be built on the great lakes. They were all built at Oswego, the Vandalia being built in the winter of 1839-40, and the Chicago and Oswego in the winter of 1840-41. The Vandalia was 80 ft. keel, 19½ ft. beam and 10 ft. moulded depth. The Chicago and Oswego were 95 ft. over all, 19½ ft. beam and 10 ft. moulded depth.

over piles of lumber 20 feet high, which, with the natural altitude of the dock, made the deck of the Chicago below a somewhat indistinct mark to jump upon. However, they all made it well except Peter. He jumped into the fore hold and broke his left arm.

In all such primitive settlements there is always one person without special training who makes claim to medical knowledge and by common repute obtains an undeserved reputation for skill. In this particular case it was a woman who attended Peter with such success that by the time the boy reached Detroit the arm had swollen to three times its natural size and was giving him excruciating pain.



DR. ZINA PITCHER.

He was taken at once to the office of a physician, who after a cursory examination decided that the only thing to do was to amputate the arm. Doctors have an agreeable custom when proceeding upon a capital operation in emergencies of this character to invite a number of fellow surgeons to witness the operation. They too frequently gather merely as witnesses and do not exercise their perceptive faculties on the patient's behalf as much as they should. Upon this occasion Peter was put into a reclining chair and securely strapped. Several doctors entered and exchanged greetings with the operating surgeon, but none of them paid any attention to Peter. They drew their chairs about and gathered around in a semi-circle and the operating surgeon proceeded to select his instruments. Peter was silent and pale as a ghost. Presently there entered the room a surgeon whose reputation, already wide, was soon to become national. His name was Zina Pitcher. He did not, as had those who preceded him, merely take a seat, but went immediately to the patient and examined the arm. It was frightfully swollen. He asked the operating surgeon if any steps had been taken to reduce the swelling, and the surgeon replied in the negative.

"We cannot tell anything about the condition of the arm until the swelling is reduced," said Dr. Pitcher. "I think it would be well to delay the operation for a couple of days."

He gave instructions that hot whisky and water, as hot as it could be borne, should be poured upon the arm at fifteen-minute intervals during the next twenty-four hours. The effect of this treatment was wonderful. When Dr. Pitcher called twenty-four hours later the swelling was greatly reduced. He ordered the treatment continued for twenty-four hours longer and the arm had by that time almost regained its normal size.

"My boy," said Dr. Pitcher, "I don't believe we'll amputate this arm at all."

He securely fastened Peter into a chair, and, working with the utmost rapidity, while the youngster screamed with pain, he pulled the bones into place and put the arm into splints. Peter carried his arm in splints for four months, but at the end of that time it was a good arm and is a good arm yet.

Some years later Dr. Zina Pitcher died and was borne to an unmarked grave. The Detroit papers, conscious of the man's greatness, suggested the advisability of a public subscription to erect a monument over his resting place. This petition fell under the eye of Peter White, who immediately subscribed to the fund. He never received acknowledgement of the receipt of his money. This, however, was not the fault of the paper. It was promptly acknowledged though the issue in which it was acknowledged did not reach him. But as a matter of fact Peter White's money did not go into the monument, but was devoted to a far more tender and beautiful purpose. His contribution from Marquette, owing to the uncertain mail service of those days, did not reach Detroit until the subscription account was closed. Indeed the entire amount was subscribed in a day. When Peter White's contribution arrived, a florist, noting the eloquence of the letter, offered to plant flowers each succeeding year upon the grave, and to this purpose the money was pledged. One of the most-prized treasures in Peter White's collection today is a photograph of this sturdy old physician.

When Peter's arm had sufficiently mended to permit him to work again he obtained employment as clerk in the store of Freeman & Bro., on Jefferson avenue in Detroit and remained with the firm for nearly a year. He then shipped with a man who was going to keep the government lightship at Waugoshance reef in the Straits of Mackinac, but when he reached Mackinac Island he found that the place which he sought had been filled. He obtained employment in the summer time with Capt. Canfield of the light-

house service, who was building a crib at Waugoshance Reef, and in the winter time he obtained a clerkship in the store of Edward Kanter with a much valued permission to go to school.

Projecting from one side of Canfield's tent Peter was accustomed to see one of his trunks having his name and address painted on the end, as is customary. It read, "Captain Augustus Canfield, Corps of Engineers, U. S. A., Detroit, Mich." The supplies and special articles for the work were usually addressed to "Captain Canfield, Topographical Engineers, Waugoshance Lighthouse, Straits of Mackinac, Michigan." Having no other copy, Peter used to imitate this writing and the lettering on the trunk, as a boy desirous of perfecting himself in penmanship naturally would. One day the corps ran short of stone and Captain Canfield ordered the boat's crew, and taking along provisions for a trip of several days, pulled across the straits. Captain Canfield made an exploration of the shore to secure a place to open a quarry of stone. On such exploring tours the boat's crew had nothing to do but wait on the beach until the captain returned from his tramp in the hills. Peter took advantage of one of these halts to write on the sand in letters six inches high, "Captain Augustus Canfield, U. S. Topographical Engineers. Waugoshance Lighthouse, Straits of Mackinac, Michigan," until he had practically filled the beach with the lettering. Canfield had a sharp, incisive way of speaking, and when he returned he abruptly asked,

"Who did that?"

Captain Lasley, the coxswain of the boat, pointed to Peter and said: "That little cuss." Canfield then went about on other business, and Lasley, who it appears could not read, gathered that the scribbling was derogatory to Canfield. He rather frightened the boy with his forebodings of punishment, and Peter was by no means reassured when Canfield sent for him the next morning. Canfield had nothing more in mind however than to promote him to the position of time-keeper at a fair advance in wages. The clerk, it appears, was overburdened with work and Canfield was glad to discover that there was some one among his crew who could relieve him.

Mackinac Island is small, charming and highly romantic. It is one of the most beautiful spots in the world. It rises abruptly out of the emerald water. It has a superb pebble beach, guarded by overhanging cliffs of craggy rocks, trimmed with exquisite evergreens, but its great attraction lies in its intense humanity, for its government has been Indian, French, British and American in succession. Peter White spent two years upon this island, and now, as the president of the Mackinac Island state park commission, can look back with pleasure upon those years.

Samuel K. Haring was the collector of customs of Mackinac Island. In such a small community, where population is only a household, there is much interchange of thought and confidence. Haring took an interest in Peter, his hopes and his ambitions, and when Robert J. Graveraet appeared upon the island in 1849 in search of men to develop the iron mines of Lake Superior, Haring urged the boy to join the expedition. Graveraet was offering $12 a month and board, Peter was making $35 a month and board, but Haring, who was a man of remarkable foresight and who clearly saw the advantages such a youth would have in a country capable of untold development, urged him to go. So Peter, eighteen years old, offered his services to Graveraet and started out upon his life's work. There followed the tempestuous voyage in the worthless little side-wheeler Tecumseh. The party had gone but a few miles from Mackinac when a huge wave took off the yawl boat, swept the decks clear of freight and sent Capt. Pratt scurrying back into harbor again. The next day the boat started out again with more passengers than it could either sleep or feed, for it was not intended that the vessel should take over twelve hours in making the trip to Sault Ste. Marie. After an heroic struggle the boat finally got inside of the Detour and there met with such solid ice that she had to back out again. It took the boat ten days to literally hammer her way to the Sault. Meanwhile the supply of food had become exhausted and an incipient bread riot occurred. This was quelled, however, by the boat actually sinking to her deck, furnishing an excitement that temporarily banished hunger. There was on board an old man, nicknamed Old Saleratus, who was the butt of every gibe and jest, but he proved the ship's salvation, for his trade was that of ship carpenter. He found the leak and stopped it.

Then followed the trip in the Mackinaw barge to Indian Town, which has previously been noted, and the march to the iron hills where Peter at the little brook resolutely picked up his own pack and carried it the rest of the way. He dropped it at the Cleveland mine, which was then known to the little party only as Moody's location. The tramp had been a long and weary one. The country was jagged, broken and mountainous, densely wooded and thick with underbrush, with only a tree blazed here and there by the Indians to guide the way. There is not in the Lake Superior region the even sweep of range and canyon, as in the far west, which frequently offers level stretches for the traveler. It is a constant grade which wearies the lungs as much as it does the legs. Peter was tired when he dropped his pack.

CHAPTER II.

THE FOUNDING OF MARQUETTE.

SAMUEL MOODY and John H. Mann, who had spent the previous winter and summer at the location, came out of a little log shanty to welcome Graveraet. They were keeping possession for this indomitable soul. The party was exhausted and lost no time in getting to bed, but Peter was up betimes in the morning. He found Capt. Moody already stirring.

"Come and help me dig some potatoes, boy," said he.

"What?" exclaimed Peter, who with the snow scarcely off the ground, knew that it was not the time to plant potatoes, much less dig them.

"Come and help me dig potatoes," repeated Moody, and seizing a hoe and an old tin pail he led the way to the top of the iron mountain adjoining. About half an acre upon its pinnacle had been partially cleared and planted to potatoes. The astonished Peter saw him open one or two hills and fill his pail with large and splendid potatoes.

"I may as well get some parsnips and carrots for dinner while I'm about it," said Moody, and suiting the action to the word, he began to pull them up in great abundance before the eyes of the speechless Peter.

This was the ordinary method adopted by the preëmptors to keep their vegetables sound and sweet over winter and not, as Peter thought for the nonce, the extraordinary perversity of nature.

Graveraet set Peter to work clearing brush and kept him at it for a month. Thus he denuded the ore of its covering and prepared the way for those immense shipments which have since swung the pendulum of the world's manufacture of iron and steel west of the Alleghenies. It is needless to say that Peter could not see the result of his handiwork. He did not know that he was making history. He cleared brush energetically, and incidentally fought black flies by day and mosquitos by night. The activity of these pests was so incessant that the surveyors in the Lake Superior region were forced to wear buckskin masks over their faces while running the lines. As the masks speedily became grimy with dirt the sight of the sur-

veyors to the uninitiated was formidable and terrifying. On June 10, 1849, the work of clearing the brush was temporarily suspended and Graveraet and his party went down to the shore of the lake to welcome Harlow and his party from Worcester, whom he calculated would arrive about this time with the machinery for the forge. They found that Mr. Harlow had arrived with quite a number of mechanics, and what was most interesting of all, a few of the gentler sex. They had reached Marquette the day before on the schooner Algonquin from the Sault. When the vessel had passed Laughing Whitefish point an east wind was blowing and Capt. John McKay had previously decided that Iron Bay, now Marquette, was no place for a schooner to be during an east wind. The prevailing opinion of navigators was that Iron Bay was full of sunken rocks. He accordingly landed his passengers on the beach just above little Presque Isle. They were about thirty-five in number and had a large amount of baggage, including trunks and tool chests, which was all dumped about the beach. They were compelled to stay there over night without bedding and were a sadly bedraggled and uncomfortable lot when they reached Marquette the following afternoon. Every one was enthusiastic, however, and the impulse to give reign to the imagination was irresistible. All were seized by the same thought—the founding of a great city.

"Let me fell the first tree," cried Peter, giving voice to the common thought.

He cut a tree at the point of rock on what is now Lake street at such an angle that it fell over the bank onto the lake shore. It was a young tree that Peter selected, but it was the first. Instantly all grasped axes and attacked the virgin forest. They decided to call the future city Worcester, in honor of Mr. Harlow's native home. With the trees that were felled they began the construction of a dock that very afternoon, because they expected the arrival of another vessel with more machinery in a few days. The trees were carried into the water whole and piled lengthwise and crosswise until the structure, thus created, was even with the surface of the water. Then they wheeled sand and gravel upon it and by the end of the second week the dock seemed both capacious and substantial. Its outer front was made of solid rock. The surface was corduroyed on the third week and it was then ready for the reception of freight.

One morning of the fourth week, Peter White, who was always the first out of bed, was surprised to find that the dock had entirely disappeared. Not a trace of it remained. The sand of the beach was as clean, smooth and packed as it had been for centuries before. Peter could scarcely credit

his senses, but in a moment the humor of the thing caught him and he merrily traced upon the sand:

"This is the spot where Capt. Moody built his dock."

Moody was wroth when he saw the havoc which the sea had made, and more wroth yet when he saw what Peter White had written. He obliterated the record and threatened to discharge the boy at the end of the month; but, as in the manner of impetuous and violent-tempered men, straightway forgot about it. It was a long time before anyone had the hardihood to attempt the building of a dock again.

Methods were primitive indeed. Boilers were plugged and thrown overboard and other machinery was landed by the Mackinaw barge. Cattle and horses were invariably pitched overboard to swim ashore. Passengers and perishable freight were landed with small boats. Under the leadership of James Kelly, the head carpenter, who was from Boston, Peter assisted in building a log house for his particular party, and when it was finished it was called Revere house after the most fashionable hotel in Boston. This building stood and retained its name as late as 1860.

During the first week or so all labor was strictly manual. There was no horse to be had. No matter how heavy a log might be the men pulled and hauled it about as best they could. By some means, however, a horse that belonged to Silas Smith came into possession of the party and Peter was selected to drive him. The boy was immensely pleased with this task. The horse was a useful animal and catholic in its appetite. It would eat anything. Smith even warranted him to thrive on sawdust, provided it was from hardwood. A week or so later an old man named Ganson wandered into the camp with a team of oxen, a cow and a calf which he sold to Graveraet's party.

"Peter, can you drive oxen?" sang out Graveraet.

"I can," answered Peter gravely, but with some hesitation.

Peter did not know whether he could drive oxen or not. He knew that "Haw" meant for the oxen to go one way and "Gee" the other, but he did not know which was which. He reasoned, however, that if he did not know the oxen did, and taking the gad he drove them straight ahead until well out of sight of the camp, when he yelled "Whoa!" The oxen stopped.

"Haw!" cried Peter.

The oxen turned to the left. Then Peter knew that "Gee" meant to the right. When he returned to the camp and nonchalantly yelled "Haw" everyone concluded that Peter had been driving oxen all his life.

"Can you milk?" asked Mrs. Wheelock, the boarding-house keeper.

"Yes," answered Peter unhesitatingly, for this he knew he could do. And so he was let into the graces of a very good and kind woman who volunteered to do his washing and mending and who invited him to eat at the second table, for all of which he was truly grateful.

Peter was proudly driving his oxen a week later when a stranger overtook him and demanded the cattle, claiming that they belonged to the Jackson Iron Co. Peter declined to surrender them and drove them back into camp. That night the cow and calf were stolen and it was reported on reliable authority that the directors and president of the Jackson Mining Co., who had just arrived at their mine, had had veal for dinner. More in sorrow than in anger the Jackson company rebuked old Ganson for having sold the animals while he was in debt to the company for the freight on them up. The old man's heroic reply was that the Jackson company owed everybody, but that he chose to reverse the order of things and owe the Jackson company. In that event, he said, there was a possibility that the debt might some day be paid.

About this time Jim Presque Isle, whose real name was James Hilliard, informed Capt. Moody that there was a large meadow a short distance from Presque Isle covered with superb grass. The only trouble with it was that the water on it was too deep to admit of mowing it. In a few hours, however, he thought a drain could be cut out into the lake that would draw the meadow dry. Moody collected his men, and, armed with shovels, axes, scythes, rakes and pitchforks, they rowed to the meadow. Capt. Moody was palpably nervous. He had never attempted to drain a field before, but he deliberately staked out the proper place for the canal and ordered the workmen to proceed. They dug each way from the center for four or five hours, and then opened both ends simultaneously, when to the great astonishment of the workmen and the no less great chagrin of Moody, the waters of Lake Superior rushed in and submerged the meadow. The field of scientific engineering was permanently abandoned by Moody and he directed his workmen to resume the clearing of the land at Worcester for the erection of the forge, the machine shop, the saw mill and the coal house, which were to be, in his judgment and that of the entire party, the forerunner of a great industrial city. It should be noted that the name of Worcester did not long continue. It was changed to that of the most illustrious of the Jesuit missionaries, Pere Marquette, who now sleeps peacefully at St. Ignace.

Meanwhile the restless Graveraet had gone to Milwaukee and returned

in August on the little schooner Fur Trader, with a large number of Germans, some Irish and a few French, to develop the iron mines. It was the great cholera year and various parts of the country were affected with the dread pestilence. The little schooner had a frightful voyage. Ship fever broke out and was mistaken for cholera. Several died on the voyage and many were landed very sick. No sooner did the report get abroad that the ship was stricken with the cholera than every Indian departed. Within sixty minutes the last canoe was out of sight, for the cholera to them was more fearful than even the small-pox. Dr. Rogers was called upon to lay aside the axe and resume the calling which, at a later date, he practiced with such distinction at Chicago. He quickly saw that the men were not suffering with cholera at all, but with ship and typhoid fever. A rude building was constructed and used as a hospital. In a few days Dr. Rogers himself was stricken with the disease, as, indeed, were a dozen other powerful men, and the condition of all of them was desperate.

"Peter," said Graveraet quietly, "you will have to take your turn in the hospital."

"Very well, sir," said Peter as quietly.

Mrs. Wheelock advised Peter to bathe the patients constantly. Whether it was from knowledge or intuition or what not she directed him to do that which the highest medical skill at a later day pronounced the best treatment for those suffering with typhoid. Peter bathed them in cold water incessantly. Dr. Rogers, who was the weakest and worst of all, endeavored from time to time to gather his scattered faculties and direct the treatment of himself and others. He mumbled medical terms which Peter could not understand, so he went on heroically plunging them into cold water. Things looked hopeless for two weeks; the men were seized with the haunting deliriums which accompany this terrible fever; they shrieked for food and medicine; but for answer the boy gave them a cold bath. At the end of the second week Dr. Rogers looked at him calmly and lucidly. The fever had fled and the light of reason was in his eye.

"Peter," said he, "you have saved us all, but if you could have understood me you would probably have killed us all."

It was a happy crowd when the fever was banished and the Indians cautiously put the noses of their canoes against the beach in Iron Bay again.

Peter's next job was filling the first steam boiler ever set up in the peninsula. It was likewise his first contract, and as is customary in such cases, he bid too low. Peter's bid was $1.50 and as the work had to be done by hand, it took him three days and two nights to do it. When it was

finished he surveyed it with sadness but with wisdom. As part compensation, however, he was installed as fireman and engineer, and only left this place to enter the machine shop to become a mechanic.

The number of vessels on Lake Superior in those days was limited, scarcely more than half a dozen, and they were frequently out of repair. The Fur Trader was the only one which endeavored to make regular trips to Marquette, but even these were three or four weeks apart. Towards the end of October she had not put in an appearance for over ten weeks.

One of the hardships of existence in the peninsula was the inability to replenish the stock of provisions regularly owing to the infrequency of communication. The stock of provisions ran quite low. Butter and other luxuries entirely disappeared. Only a few barrels of pork and flour remained and a short-ration order had to be issued. One of the men pretended to discover a conspiracy among the Germans to seize the warehouse and he volunteered to organize a guard to protect it. The prospect of a long winter on a few mouthfuls of food per day did not appeal to the Germans whom Graveraet had brought from Milwaukee, and one bleak morning in November they started out of the country by way of Grand Island and Munising. But few of the party, however, ever reached Grand Island. It was a trackless wilderness and many of them stumbled by the way. They probably would have perished there but their hardier brothers returning from Grand Island, where they had learned that a propeller loaded with provisions had departed for Marquette, revived their spirits and all came back to Marquette.

Graveraet, who had disappeared again—this time to Chicago—came overland via Munising from Escanaba with a troop of horses. The horses were needed for the purpose of drawing the iron ore from the mines to Marquette, where it was hoped that the forge under construction would shortly be in operation. His purpose was to make Marquette a great iron and steel manufacturing center. His dream was to make the peninsula an industrial empire. The only thing which he possessed was resistless energy. Never at any time in his life did he have the means to finance his projects. If he had he doubtless would have stamped his individuality more powerfully upon the peninsula. Graveraet is but a memory now; but while he lived he was a force. He had practically no money to offer those who associated themselves with him. When one realizes his limitations, the spectacle of the man penetrating the wilderness with men, horses and equipment becomes magnificent. It speaks volumes for an imperious will and fascinating personality

This extraordinary man was attracted to Peter White, for they had a common facility of language. Graveraet spoke English, French, German and several Indian dialects. He was highly educated. Peter White spoke several languages also, a gift wholly native, for his mind was practically undisciplined. He seemed to have the faculty of absorbing language by association. Throw him in contact with an Indian and Peter White would acquire his tongue within a month. Graveraet was therefore attracted to a boy whom the Chippewas followed after as though they were his personal retinue. The Chippewas liked Peter because he could tell them stories in their own language. It was even said that he had a greater hold upon the Indians than Graveraet, who had lived among them for years. Therefore when Graveraet wanted anything done he summoned Peter. One day he sent him upon a mission of some delicacy to Escanaba. This meant a trip overland across the peninsula—a mere nothing nowadays, but a considerable undertaking through a continuous forest for a boy of eighteen. Two Chippewas, Mongoose and Jimmeca, volunteered to accompany Peter. This is one of the chief recollections of the man's life, which is not surprising since it was the first trip he ever undertook through the wilderness on foot. They carried their provisions on their backs. The Indians were of incalculable aid to Peter in following the trail. When one tree is blazed the Indian seems to know by instinct where to look for the next blaze and so the trail was followed with reasonable accuracy. There is nothing more monotonous, however, than following a trail, either on horseback or on foot. On the fourth day Peter began to despair. The woods seemed endless. He thought of the children of Israel in the wilderness. They were in it for forty years; Peter was in it for four days. Poor children of Israel, thought Peter. On the seventh day he came to Escanaba, then known as Flat Rock, having scrambled through thickets and floundered through swamps. He returned in five days and made a mighty resolve never to go into the woods again. It will be shown, however, how quickly this resolution was broken.

CHAPTER III.

THE OVERLAND JOURNEY TO ESCANABA.

THE business of pioneering is tragic. There may be plenty of comedy here and there, a deft touch of humor that puts a high light occasionally into the day's work, but the background is always somber. It is a tragedy pure and simple. The initial year in the new country was not without its sorrow. A. R. Harlow was the practical man in the settlement. He had heard in some way of a new deposit of iron near the mouth of the Carp river and resolved to secure it. It was necessary to make a journey to the land office at Sault Ste. Marie to obtain the necessary papers. John H. Mann, who with Moody was guarding the mines for Graveraet, undertook to make the journey in a small boat. Accompanying him were Jim Presque Isle, Henry Emmons and a boy named Kellogg. Emmons was the monied man of the party and carried the gold, amounting to a thousand dollars or more, in his belt. He had joined the Marquette Iron Co. when it was organized at Worcester. They left Marquette on Nov. 27th. This is well into the treacherous season and is an undertaking which no one, familiar with the moods of Lake Superior, would attempt. Their boat was little more than a row boat. The party never reached Sault Ste. Marie and never returned to Marquette. Weeks later Jim Presque Isle and Emmons were found, one in each end of the boat, dead, the gold still undisturbed in Emmons' belt. The other two had doubtless been swept overboard before the boat struck the shore. The fact that there was no iron near the mouth of the Carp river makes the tale more pitiful and more tragic.

It was a wonder, too, that Moody did not meet the fate of Mann. His life was preserved for the civil war to put a quietus upon it but he gave the peninsula plenty of chances to take it. Graveraet, as related, had brought a number of horses from Chicago, depending upon the vessels to bring the hay and grain for the long winter's feed later. The schooners Swallow and Siscowit, with their cargoes of grain, were unable to make Marquette, owing to a storm, and ran to L'Anse, where they laid up for the winter. It

was absolutely necessary to get this grain to keep the horses from starving, and Capt. Moody, who had a heart of oak, started after it. He went upon snow shoes to L'Anse, accompanied by James Broadbent, an old salt-water sailor. Upon their arrival there they found the vessels stripped, and what was worse, frozen in the ice. It was a disheartening task but Moody was equal to it. He and Broadbent began to refit the Siscowit. Her captain, old Jim Bendry of L'Anse, later of Baraga, finding that he could not physically prevent them from doing so, contented himself by firing upon them as picturesque a stream of profanity as ever emanated from human lips. Moody said later that he had a heap of respect for Bendry's command of language. They filled the Siscowit with corn and oats from the Swallow and employed a large number of Indians to cut a passage between two and three miles long through the ice, so as to float her out into the open water. They got her out on Christmas eve and arrived at Marquette on Christmas day, the sails frozen stiff and immovable and the ice a foot deep upon her deck. They had not seen land from the time they left L'Anse until they got into Iron Bay, having all the time a heavy northwest gale and snow storm. There was much rejoicing when the schooner entered the bay. She was successfully unloaded, but in endeavoring to get her into Chocolay harbor she missed the channel and went ashore in the breakers, where she pounded to pieces.

During the winter the little colony at Marquette had only three or four mails. Mr. Harlow, the deputy postmaster, employed the Indian Jimmeca to go to L'Anse after the mail at the cost of $10 a trip. The manner in which Mr. Harlow came to be deputy postmaster was thus: There had been neither postmaster nor postoffice at Marquette the preceding summer. All mail intended for the little colony on the shore of the lake, after being landed from the vessel, would be taken to the Jackson forge, nine miles distant, and the mail bag there opened by the postmaster, P. M. Everett. The mail intended for Marquette, would then be returned to the carrier. A settlement had grown up about the Jackson forge and was called Carp River, because it was at the point of the settlement that the river was crossed. The postoffice, therefore, was known as Carp River. After a mail had arrived by vessel it was particularly irksome to the little colony at Marquette to wait for it to be taken to Carp River, nine miles away, to be opened and then returned. Letters were infrequent in those days and eagerly devoured. Newspapers were also eagerly sought and a single newspaper would be read by the entire population. It was carefully wrapped in cloth as it passed from hand to hand to preserve it and its age was a matter of

indifference to the reader. Just before the close of navigation, P. M. Everett brought down all the paraphernalia of his office to Marquette, which consisted of merely a few books and mail boxes and appointed Mr. Harlow as the deputy postmaster. Everett and nearly everyone at the Jackson forge then left the country for the winter. Indeed not a vestige now remains of this settlement at Carp river. The bridge is down, the forge is gone, the houses have vanished and the forest has grown over the place as though the hand of man had never disturbed it.

In the spring of 1850 the old Jackson Co. was about ready to suspend. It had undertaken the herculean task of making iron a thousand miles away from the market. It owed even to its own workmen. Mutterings were heard among the men and the rumor became pretty well defined that they intended to hang the president of the company, Mr. Czar Jones. At any rate Jones did not like the looks of things and sought out Peter White. He told Peter that he had pressing business down below. "Down below" was the usual way of designating one's home. He asked Peter to guide him to Escanaba. Hard knocks had begun to put an edge on Peter. He was growing to be a sharp hand at a bargain. Moreover, since the calf incident he had a poor opinion of Jones. He declined to go. Jones raised his bid from $1 per day to $3 a day and promised to pay him for sixteen days, the time that Peter estimated it would take to go and come.

"If you will get Mr. Harlow as security I will go with you," said Peter finally.

Peter drew up a formal contract, but while Jones eagerly signed it Harlow was most reluctant to attach his signature. Noting this reluctance, Jones agreed to leave the money with Mr. Harlow to be paid to Peter upon his return.

"You will take along a man to carry the provisions?" asked Peter.

"Yes," answered Jones.

Peter used up full seven days in reaching Escanaba. Never since has anyone attempted such a tortuous route across the peninsula. If there was a jungle or a swamp Peter plunged through it with Jones a close second. Peter was thinking of that stolen calf.

"Haven't you lost the way?" wailed Jones a dozen times a day.

On the fourth day Peter paused and wiped his brow. He gazed about him with much perplexity of expression.

"Great heavens," said he, "I am lost."

Jones fell upon his knees. Despair was written upon his face.

"To pretend to be a guide," he said, "and not to know the way."

The truth of the matter was that Peter had been looking for the Escanaba river for a full day and had failed to find it. A little later, however, he came upon it, but Jones' nerves had been so wrought upon that he no longer trusted his guide. He started up stream upon his own hook.

"Come back," roared Peter, "you're going the wrong way."

The old man stubbornly continued up stream until Peter running after him broke the ice and showed him which way the current flowed. On the seventh day they reached Escanaba. Peter returned to Marquette in three days.

The forge of the Marquette Iron Co. went into commission in the spring and in the following July Mr. W. A. Fisher and Mr. Long of the company visited Marquette. One day Peter was not a little surprised to have Mr. Long send for him.

"We want you to have charge of the company's store, Peter," said Mr. Long; "what wages will you expect?"

Peter had got out of the habit of expecting much from iron companies. Graveraet had offered him $12, and sometimes he was getting it and sometimes he was not.

"I would expect $24 a month," he said faintly without much hope of getting it.

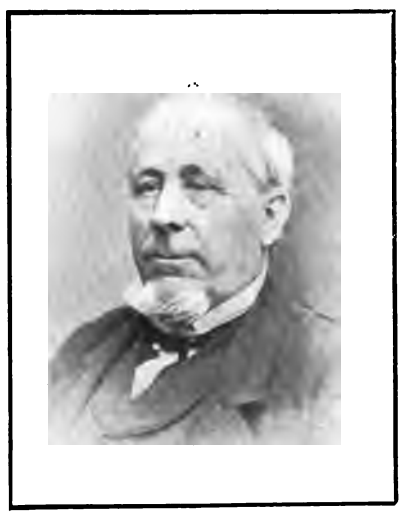
"Indeed," replied Mr. Long with some surprise. "Very well. We were expecting to pay you $45, but are glad to get you for $24."

Peter took the position but went out with a very sober face. He had learned that it does not pay to have one's aim too low.

CHAPTER IV.

PROVING THE CLAIMS TO THE IRON DEPOSITS

IN the fall of 1850 the preëmptors gathered at Sault Ste. Marie, where the land office was established, to prove their claim to the iron deposits. Samuel Moody and Dr. Rogers had left Marquette in a small boat for the Sault, the former to claim the Cleveland deposit and the latter to claim the Lake Superior location. They were becalmed and did not reach the Sault on the appointed day. The Cleveland company, however, had not permitted its claim to lapse for an instant since Dr. Cassel's visit in 1846. It had its representative present. They defended the claim of the original pre-emptor and conclusively proved that possession had been undertaken long before either Moody or Mann appeared. Papers were issued in the name of Lorenzo Dow Burnell and the contention of the Cleveland company was later substantiated at Washington. Graveraet seemed to have viewed this with complacency, but was furious at the non-arrival of Rogers, who was to have secured the Lake Superior location in his behalf. He was white with rage when Isaiah Briggs stepped up and secured it on behalf of John Burt. Briggs was a packer of provisions for the surveying parties and had built a little shanty for himself and his pony on the Lake Superior location, which he also used as a base of supplies. On the strength of this residence he secured the claim for Burt. Graveraet threatened to contest the claim unless Burt gave him a half interest in it at once, and Burt actually did



ALEXANDER L. CRAWFORD.
From a photograph taken in 1885.

give to Graveraet an undivided one-half interest in this enormous deposit. It has previously been shown that he had assigned a lease of this deposit from Rogers to the Marquette Iron Co. He now assigned this undivided one-half interest from Burt to the Marquette Iron Co.

The fame of Lake Superior iron was beginning to spread and was attracting practical ironmakers from Pennsylvania and Ohio. The most progressive of these was Alexander L. Crawford, of New Castle, Pa., who as early as 1849 ordered ten tons of the ore sent to New Castle for testing purposes.* Ten tons are nowadays only the grab of a clam-shell bucket, but at that time it was a considerable order and, in point of fact, it was the summer of 1850 before the ore was actually transported from Marquette, being brought down from the Jackson mine during the preceding winter on sleds. Part of this ore Mr. Crawford used for puddler's fix in his rolling mill at New Castle operated by the Cosala Iron Co., and the balance was used in Mr. Wick's rolling mill at Youngstown for the same purpose. In both cases it was found to be quite satisfactory. With the exception of the ore that was actually carried on the backs of the original discoverers this was the first real shipment of ore from the peninsula.

*Alexander L. Crawford was one of the most remarkable men of his time. He was always a very active man and business was his greatest pleasure. He was the ruling spirit in a number of enterprises that would be considered big today and which were proportionately much greater then. He was born near Norristown, Montgomery county, Pennsylvania, Feb. 5, 1815. He came of old Irish stock, his maternal great-grandfather having migrated to this country from Ireland about the year 1720, and settled near Norristown, where his grandfather and father were born. The farm which was the birthplace of the subject of this sketch was in the possession of the Crawford family for nearly a century. Both Andrew and Elizabeth Crawford, the parents of Alexander, were natives of Montgomery county, where the father died in 1838, the mother having died in 1828. Andrew Crawford carried on an extensive farm and lime-kiln business in Montgomery county up to the period of his death. Alexander was raised on his father's farm and worked upon it until the latter's death in August, 1834, when he took charge of the large lime-kiln interests of the estate, for Messrs. Thomas and Hoover, who rented the property and carried on the business, which employed fifty men, and burned about a thousand bushels per day for three years. Alexander then sold the property and in 1836, married Miss Mary R. List, of Montgomery county. He then went into farming, in which he continued until 1841, when he abandoned that business as not sufficiently profitable, sold his farm and removed to New Castle, Pa. The first rolling mill in New Castle was built in 1839 by James D. White. Mr. Crawford with his brother J. M. Crawford and George K. Ritter bought this mill the day after he arrived there. In 1850 the Cosala Iron Co. was organized with A. L. Crawford as president. It was this mill that used the first shipment of ore from the Lake Superior country, finding it quite satisfactory, and credit should be given to Mr. Crawford for this achievement. This mill was afterward owned by Dithridge & Co., and still later called the Etna Iron Co. or Kimberly mill, located between the Shenango and Neshannock rivers. In 1864 money was plenty and everybody wanted to invest in substantial lines of business: therefore those in which Mr. Crawford was engaged ranked high. He was so shrewd as to see that this was the time to turn his capital at a profit, and accordingly sold out at "war prices." In 1842 he had purchased the Springfield furnace, and made charcoal iron for the use of the rolling mill, and in 1847 he built the Tremont blast furnace, near New Wilmington, Lawrence county, Pa., which he sold out ten years later. In the summer of 1853 he bought the Mahoning furnace situated at Lowellsville, Ohio.

In the fall of 1850 B. F. Eaton and his brother, Watt Eaton, arrived from Columbus, O., to show the uncouth denizens of the peninsula how pig iron was made. They came with men and horses and supplies and a great flourish of trumpets and leased the Jackson forge. They swelled the natural population of Marquette to a considerable extent, and, indeed, it had been much augmented with other arrivals. The winter closed in without any provision for the delivery of the mail on the part of the government. During these latter days with mail service every hour or so this privation cannot be appreciated. It is one of the things which one has to experience to comprehend its annoyance. Every man at Marquette had either a mother or wife and children behind. To see the winter inexorably close in and to know that

He built a railroad two miles to the coal mines to cheapen the cost of the coal used in the furnace. He ran this furnace a month, when he blew it out and instituted many improvements in it. By bringing the gas down from the tunnel head to the boilers and hot blast, he was able to make a saving of $30 a day; making this the first furnace run in the United States with gas, successfully, with the boilers and hot blast located on the ground. The increased quantity of iron per week was from thirty-five to eighty-five tons, with the same quantity of blast. In May, 1864, he sold this furnace at a good price. In 1868 he built the two Etna furnaces at New Castle, sold them out in 1872 when iron was high, and gave the owners for four years' interest 150 per cent, besides their original capital. In 1872-4, he built two blast furnaces at Terre Haute, Ind., one of which was afterwards removed to Gadsden, Ala. In 1876 he built the Sligo furnaces, in Dent county, Mo., which are still in operation, making fifty tons of charcoal iron daily. In 1875 he built the Wabash rolling mill at Terre Haute, Ind., and established the Vigo Iron Co. In the fall of 1884 Mr. Crawford bought the Neshannock furnace in New Castle. He made many changes in this furnace, increasing the output from 750 to 1,300 tons per week of Bessemer pig. As early as 1855 Mr. Crawford had sunk the first coal shaft in Mercer county, Pa., in the block coal, which works raw in the furnace; and in 1866 he sank the first coal shaft in the block coal in Clay county, Ind.

Mr. Crawford's remarkable discernment in regard to everything connected with his business was shown in the year 1857 when the first blast furnace was built in Pittsburg by Gaff, Bennett & Co. They undertook to run the furnace on coke made from Pittsburg coal. Mr. Crawford assured the firm that the attempt would be unsuccessful, which proved to be the case. They tried it for some time, piling up iron which could not be used, until it grew to be more than they could carry. They were in a bad position, when Mr. Crawford offered to get them out of the scrape, provided they would implicitly follow his directions, which they agreed to do. He sent them up to Connellsville to get a coal bank to coke the coal on the ground, until they could build some ovens, and bring it to Pittsburg and use it in their furnace, when he would guarantee they would make good iron. All turned out precisely as Mr. Crawford predicted. Mr. Bennett was very anxious to find out how Mr. Crawford knew this, but the latter would not tell him, and chuckled over the fact that he never had. From that small beginning arose the vast Connellsville coke industry. Mr. Crawford made his first attempt at railroading when he was nineteen years old, and he put in the first switch ever applied up to that time, 1834, for switching a car or cars from the main track. The practice before that was to have a turntable, turn them by hand, and run them one at a time, out at right angles with the main track. There were at that time just four locomotives in use in the United States. The Philadelphia, Germantown & Norristown Railroad had the first one built by Mr. Baldwin, and called the "Ironsides." It only weighed about twelve tons, and had no cab, so that the company advertised that on pleasant days the locomotive would pull the cars, but on rainy days the horse cars would run as usual. Since that period Mr. Crawford had built the New Castle & Franklin Railroad, and a number of short coal roads, while assisting to build the Youngstown & Ashtabula Railroad, the Lawrence Railroad, the St. Louis, Salem & Little Rock, the New Castle & Beaver Valley, and the Nashville & Knoxville Railroad in Tennessee. One hundred miles of

one may not hear from them again until spring is a condition which a man who loves his family cannot endure. The thought is ever present that something has happened of which he is not cognizant. An imaginary evil is always greater than a real one. After a month or more had gone by without a mail the population became restless. A council was called in the Marquette Iron Co.'s store to consider the mail question. Everyone was present. The Eatons offered to give $500 to establish a mail service during the winter and others swelled the total to $1,200. The meeting disbanded after having instructed Mr. Harlow, the postmaster, to get someone to go after the mail.

Peter White's eyes had been standing out like saucers at the mention of these enormous sums of money. When the last man had gone he turned to Harlow and volunteered to become the mail carrier. Harlow laughed at him.

"Pshaw," said he, "you're too young. Besides you're not strong enough."

White, a powerful, broad-shouldered man nowadays, was at that time a slender chap. He was full-bearded, however, and looked more than his age. His dress was picturesque. He wore a red flannel shirt in winter and a hickory shirt in summer, and in the winter time wore moccasins large enough to accommodate two or three pair of stockings. This was the usual garb of the pioneer.

"Will you hold my job for me?" asked Peter, who did not want to sacrifice his clerkship in the store.

this latter road extends from Lebanon to the block coal fields of Overton county. These are the largest fields of that kind of coal in the United States. It will make iron in the raw state, as it comes out of the mine. Mr. Crawford was president of the New Castle & Beaver Valley railroad, treasurer and general manager of the Nashville & Knoxville railroad, vice president of the National Bank of Lawrence County, Pennsylvania, vice president of the Sligo Furnace Co. of Missouri, president of the Kimberly Iron Co. of Michigan, and president of the Crawford Iron & Steel Co. of New Castle. Mr. Crawford had eight children, of whom only two are now living—Hugh A. Crawford, of Napa, Cal., and John L. Crawford, of New York. Mr. Crawford was a pioneer in the three most important industries in the United States, the production of coal and iron and the building of railroads. He saw these interests grow from small beginnings to vast proportions. Indeed, it is doubtful if the progress of either would have been so rapid in the beginning of their history were it not for the shrewd, far-seeing judgment of Mr. Crawford. The states of Pennsylvania, Indiana, Michigan, Missouri and Tennessee owe much to him for the development of their latent resources in time of greatest difficulty. He was a man of national reputation for the quickness and keenness of his perception, and the accuracy of his judgment in regard to all those matters which he had made a life-long study. Gifted with a memory of marvelous strength and accuracy, he could give the cost of prospecting and running coal mines from the time the fields were discovered; and the cost of material and building, and the earning of every mile of railroad with which he had ever been connected. With regard to these subjects he was an indisputable authority, sought after and respected, far and near. Mr. Crawford was an immensely active man practically up to the day of his death. He was engaged upon a railroad deal involving millions when he was suddenly stricken with la grippe, which developed into pneumonia, from which he was unable to rally. He died at New Castle, Pa., April 1, 1890, at the age of seventy-six years.

"Certainly, I'll do that," replied Harlow.

"Then I'll start the day after tomorrow," announced Peter.

And start he did. He got two Indians to go with him. His influence with the Indians was great and they would have gone with him to the pole. Hundreds of letters were written by the men when they learned that Peter was going to carry the mail. The whole town saw him off. The mail was very heavy, and what with the provisions, which also had to be carried, made a staggering load for his back. The mail was taken to L'Anse, where other carriers were met. Peter established a station where he might meet the carriers in the woods. It was as primitive as it well could be, Peter hanging the mail bag to the limb of a tree where the relay might get it. On the second trip he secured a dog sled and a team of dogs to ease his burden. The sled was flat, like a toboggan, and the dogs were mongrels, stout curs, capable of making between four and five miles an hour. They had to be fed at short intervals to keep their temper and spirits at normal pitch. They became wildly excited at the scent of wolves and were almost unmanageable on such occasions. The mail was securely strapped to the sled, Peter traveling alongside of it on snowshoes, controlling the leading dog by a string rein and using a staff to stop the sleigh by pushing it into the snow. He made nine of these trips during the winter and they furnish the base for many of the legends of the upper peninsula. The lore of the French Canadian, in particular, is full of stories of Peter and his Indians and his dog sleds.

For these nine trips Peter received the aggregate sum of three dollars. Eaton's $500 and the other pledges, amounting to $1,200 in all, never materialized. They never paid him a cent. Among those who attended the meeting was Silas C. Smith, who had pledged $3. Meeting Peter on the street one day he gave him the money.

"What's this for?" asked Peter.

"Your mail service," replied Smith.

Peter, to Smith's astonishment, handed back the money without explanation.

"I'll tell you some day," said he.

A year later he told Smith that he didn't want him to stand the whole expense of the nine trips. Peter has never regretted this experience, however. It strengthened his muscles and his constitution, and gave to him that wonderful physical base which even today makes him one of the most active of men.

CHAPTER V.

FIRST ORE HAULED FROM CLEVELAND MINE.

IT was during the winter of 1850 that ore was first hauled from the Cleveland location, which was, as shown, claimed by the Marquette Iron Co. The ore had been mined during the previous summer and put into the stock pile to await the winter's haul. Owing to the abominable condition of the roads, and in some places to the absence of any roads whatever, it was impossible to haul ore to the lake during the summer. The Cleveland mine lay two miles beyond the Jackson mine and the distance was regarded as a considerable item. During the preceding winter of 1849 the snows had been so heavy that no attempt was made to haul ore from the Cleveland mine. The little quantity that was hauled from the Jackson mine during the winter of 1849 was speedily consumed, and the forge had to suspend operations during a part of the summer for want of ore. Another great difficulty was the impossibility of keeping a sufficient stock of charcoal on hand to keep the forge running. The charcoal in those days was all burned or charred in pits. Such a thing as a charcoal kiln of brick or stone was unknown. The deposits fortunately needed no appliances such as drills or powder to work them. If they had they probably would not have been worked as there was neither drills nor powder in the peninsula. Nature by frost or some other means had loosened up thousands upon thousands of tons of as pure ore as ever was mined, so that any common laborer had only to pick it up in his hands and carry it to the stock-pile. In some instances the pieces had to be sledged into smaller dimensions in order to be lifted into the sleigh. During the winter of 1850 about twenty-five double teams were employed in hauling the ore to the forge at the lake, where it was crushed and then made into bloom iron, ready for shipment. This venture of making blooms was most disastrous. The cost of hauling the ore to the lake, the cost of the operation of the forge, the long carriage to the mills of Pennsylvania and Ohio made the cost of the blooms so excessive that it was impossible to recover. By the time the blooms were laid down in Pittsburg they had actually cost $200 a ton and the market rate for iron

was then $80 a ton. None of the ore itself was shipped below. This thought had not occurred to the pioneers. In the spring of 1851 Ben Eaton, who had come into the country so bravely the year before, fled. He went to the most remote corner of the globe that he could find—Australia—and so far as known, never returned.

In the summer of 1851 Peter White went fishing. He might, indeed, have gone fishing all summer for all there was doing. It was a time of woeful stagnation. There was no money and little of anything else in the peninsula. When he returned from his fishing expedition he found that the county of Marquette had been organized and that he had been elected county clerk and register of deeds. Peter protested that he was not yet of age. He was promptly told to keep still about it, as it was necessary that the county clerk should be a person who could write and that he was one of the few who could. At that time Peter would readily have passed for a man thirty years of age. He wore a full black beard which gave him a mature look. The appointment of clerk carried with it membership in the school board and he was elected treasurer of that body, an office which he has held continuously since. In the selection of Peter White as county clerk there was probably an intention in the minds of the inhabitants of Marquette to compensate him for services rendered. He had really earned the office of county clerk. Marquette had previously been attached to Houghton county, the county seat of which was Eagle River. One of Peter's thrilling experiences had been a trip to Eagle River, on foot and alone, to get the county clerk's certificate to a lot of legal documents. This intrepid young man, who seems to have been born without fear, went first to L'Anse, then across the ice to Portage Entry, then up the river and over Portage lake and across the portage to Eagle River. His business despatched, Peter prepared for the home journey.

"When do you return?" asked Mr. Kelsey, the county clerk.

"Tomorrow," replied Peter.

"Oh, no," answered Kelsey, "we never allow a winter visitor to depart under two weeks. Moreover, you are the first man that ever came from Marquette up here by land, and we must give you a good time."

Peter was somewhat frightened by the prospect. He never had been a social lion and he didn't want to be one. He would much rather have been permitted to go home quietly, and he thought for a time of cutting and running. But they were all so very friendly and so courteous that his fears were dismissed. And, indeed, they very well might be. The very next evening they gave a big party in honor of Peter White and scheduled

an even more elaborate one for the following evening. Peter protested that his apparel was not suited for parties, and for reply they took him to John Senter's store and made him don the most elegant suit of clothing in his shop. This round of festivity continued for nine days. He will tell you candidly today that it has not been equaled in all his varied career since. When he came to leave he was offered all the silver specimens and agates that he could carry. But Peter had been attracted by the cuisine, and, moreover, his wants were very simple.

"Let me take two cans of those elegant cove oysters to my Carp River friends," said he, "and I will be delighted."

Peter worked his way back as far as Portage Entry and found the ice in L'Anse bay all broken up. At that time copper mining on Portage Lake had not been dreamed of. Upon his arrival at the Entry he was laid up for three days with "le mal de raquette" or snow-shoe sickness. As soon as he could travel he set out through the woods for the Catholic mission. He knew nothing of the route except to keep in sight of the bay, and this he soon found was impossible, owing to the impenetrable nature of the underbrush. So he struck back into the woods for better walking. The distance he had to go was seventeen miles and it seemed to him as though he had already traveled thirty. It was very cold, twenty degrees below zero, he had had no dinner and night was coming on. He crossed a little valley, and as he mounted a hill, looked back and caught the only glimpse of the sun he had had that day. He knew that in order to reach the head of L'Anse bay he ought to be going towards the setting sun instead of from it. He changed his course in that direction and presently came across a single snow-shoe track, and was pleased to think that he was getting where someone else had so recently been. In a little while he crossed other tracks, and shortly thereafter another, and it soon dawned upon him that they were all his own. He had been traveling for hours in a circle, only enlarging it a little each time. It was now growing dark rapidly, and Peter had to make preparations for spending the night with the wild beasts of the forest. He had no axe or provisions, except the two cans of cove oysters, but fortunately he had a few matches. He succeeded in starting a fire at the foot of a dead cedar that leaned over into the forks of a hemlock, and as fast as it would burn to a coal it would slide down a little and thus replenish itself. Peter was too much excited to be either tired or hungry that night. He slept a little in an upright or sitting posture before the fire. The snow was about five feet deep. He had shaped an indentation of his own figure like a chair into the snow and lined it with balsam sprigs, so that it was quite

comfortable. In the morning Peter broke every blade of his congress knife in trying to open the cans of oysters. Failing in the attempt, he boiled them in the can and endeavored to eat them. Endeavored is used advisedly. He did not eat them. They refused to be eaten. They would not stay upon his stomach.

Bishop Baraga had left the Entry after Peter, and therefore knew that he was either hurt or lost. He sent an Indian after him. The Indian found him about 3 o'clock and took him to the mission.*

*Peter White wrote the following account of the adventure for Rev. A. J. Rezek's "History of the Diocese of Sault Ste. Marie and Marquette":

Over fifty years ago, one winter, I was making my way to Keweenaw county; that trail led us from L'Anse by way of the Portage Entry, Portage River, and from there overland to Eagle River. In crossing Portage Lake I met, or rather overtook Father Baraga and his guide, on their way to Eagle Harbor. As I spoke the Chippewa langauge, Father Baraga seemed delighted to meet me and in course of our conversation, while walking on, he most cordially invited me to call on him at the Mission, and I cheerfully promised him that I would at the first opportunity. This was my first intimate acquaintance with Baraga, though I had met him before, I believe the first time in Abner Sherman's store at L'Anse. We separated then, after going a few miles together, because my party of three wanted to go faster than Father Baraga was taking it. I spent two weeks at Keweenaw Point—and other points—on my way back I stopped over night with one of the two men who lived at "the Entry" and started about eight o'clock next morning for L'Anse. I soon found the swamps that bordered the shore impenetrably thickly wooded so that I preferred to wade along the shore in the water. Finding the water too cold for traveling convenience, I struck inland and to my satisfaction saw an open space of considerable size. Without hesitation I took for the open route and passing from one to the other I must have struck and crossed seven or eight of these marshes. It was splendid snow shoeing! I followed them regardless of proper direction and bye and bye I struck nice hardwood timber and traveled on faster and faster realizing that I must have lost some time on the meadows. I had not seen sun all that day; at 4 p. m. I came to a little valley—a brook running through its bottom—I crossed the brook and ascended the little fifteen or twenty-foot hill on the other side, and as I got to the top, to my astonishment, I noticed the bright reflection of the sun on the trees ahead of me! I knew at once that in order to reach L'Anse—the head of the Bay—I should have been going west, towards the setting sun. So I turned back, crossed the brook again and struck fast in the direction of the last glimpse I had of the sun. In fifteen or twenty minutes I found a snow-shoe trail and said to myself "now I am all right again," but in another twenty minutes I struck another trail. I then measured the tracks with my own snow-shoe and to my dismay found that I was the fellow who was running around in a circle. By this time it was getting rapidly dark. I was in possession of a good double blanket and had plenty of matches, but no axe. However, I experienced no trouble finding enough dead limbs to make a roaring fire; but did not sleep much that night. I realized that I was lost and did not know which way to go, except, perhaps, to follow my tracks of the day before, some twenty odd miles back to the Portage Entry, if I could find them again. I had two cans of oysters, one I had already eaten. In the morning about seven o'clock I was about to start on my exploration when I heard an Indian yell off to the left and soon another one to the right. I kept answering them and in twenty minutes two Indians reached me from opposite directions. "The priest sent us to find you," they said, and in less than an hour I was in Father Baraga's house. Father Baraga returning from his tramp to Eagle Harbor arrived at the Entry an hour after I left there; they did not follow my trail, for they knew a better one, consequently arrived at the Mission that night. Father Baraga knew that I had not passed there and at once surmised that I must be in the woods and had probably lost my way. So he sent those two Indians to look for me next morning as soon as they could see. Father Baraga did me a good turn, and perhaps actually saved my life. If my strength did not fail me, I could have gotten out before night. Still, I often say that "he saved my life." Hence my debt of gratitude.

CHAPTER VI.

PETER WHITE BECOMES POSTMASTER.

W. H. BRUCE was the general mail contractor for the upper peninsula with headquarters at Green Bay, Wis. In widely-scattered and primitive settlements the government has a habit of letting the distribution of the mail by contract. It saves the bother of Washington forever seeking or finding a man for some place which is so small as not to be even definitely located upon the map. So W. H. Bruce of Green Bay, Wis., was in general charge of the mails for the upper peninsula. The forwarding of the mails in the winter time didn't worry Bruce much, for he realized the utter impossibility of reaching some of the more remote settlements through the great banks of soft and yielding snow. And so it happened that during certain seasons of the year Marquette and vicinity were shut out from the rest of the world. When Bruce examined his lists he came across P. M. Everett's letter resigning the postmastership of Carp River, which had been forwarded to him by the postoffice department.

"Carp River is vacant," said he to himself. Bruce knew or thought he knew that Carp River was quite an important settlement in the rising iron country. He had heard a great deal of it. He had not heard of the processes of decay which had already resulted in its virtual abandonment. Meanwhile Mr. Harlow had secured the definite appointment as postmaster of Marquette. Bruce accordingly cast about for a postmaster at Carp River. Peter White's father was managing Bruce's business at Green Bay, and it was very natural that he should think of Peter White. As a matter of fact, he couldn't think of anyone else, for Peter White was the only person he positively knew to exist in the peninsula. Accordingly he instructed the postoffice department to appoint Peter White postmaster at Carp River. It never occurred to him to say anything to Peter White about it. The entire population of Marquette was therefore considerably astonished when the first vessel to arrive in the spring of 1852 brought a formidable looking letter, thick and bulky, bearing the seal of the United States government, stamped free, and addressed in big handwriting to

Peter White. Peter was the most astonished of all. He did not suppose that anyone beyond his circumscribed little world had ever heard of him, and especially not so mysterious and mighty an institution as the United States government. It was the use of the franking privilege that bewildered him, for he was the first person to be ever so addressed in the peninsula. Peter flatly declined to open the letter. He was afraid of it. He said that he hadn't done anything against the government and he didn't want the government to do anything to him. Moreover he did not want to put himself in the position of being responsible to the government for any of his acts and he felt that he would be if he opened the letter. He declared that it was perfectly clear that the letter was not intended for him even if it bore his name. There had been some mistake to which he did not care to be a party.

Letters in those days of infrequent mails were common property, and a town meeting was held to discuss the purport of the prodigious document addressed to Peter White. The meeting was held in Peter's boarding house, and Mr. Jacobs, a somewhat forceful character, acted as chairman.

"I will open the letter," said Jacobs, "and take the consequence."

Jacobs opened the letter and read:

Post Office Department,
Appointment Office,
Washington, Oct. 13th, 1851.

Sir:—

The Postmaster General has re-established a post office by the name of Carp River, in the County of Carp River and State of Michigan, and appointed you Postmaster thereof, in which capacity you will be authorized to act upon complying with the following requirements:

1st. To execute the enclosed bond, and cause it to be executed by two sufficient sureties, in the presence of suitable witnesses, and the sufficiency of the sureties to be certified by a qualified magistrate.

2nd. To take and subscribe the oath or affirmation of office enclosed, before a magistrate, who will certify the same.

3rd. To exhibit your bond and qualification, executed and certified as aforesaid, to the Postmaster of Marquette and then to deposit them in the mail, addressed to me.

You will then be entitled to enter upon the duties of the office without waiting for a commission.

A mail key is enclosed. Blanks will be sent from the P. M. at Buffalo, N. Y.

After the receipt, at this Department, of your bond and qualification, duly executed and certified, and the approval of the same by the Postmaster General, a commission will be sent to you.

It will be your duty to continue in the charge of the office, either personally or by assistant, until you are relieved from it by the consent of the Department, which will be signified by the discontinuance of your office, or the appointment of your successor.

Very respectfully,

Your obedient servant,

FITZ HENRY WARREN,

Second Assistant Postmaster General.

Peter White, Esq.

If Peter had been alarmed before he was greatly mystified now. He could not conceive how the government could have possibly become possessed of his name.

"It isn't meant for me and I'll not accept the office," said Peter.

Jacobs without replying read aloud again the provisions of the appointment. He came to the clause which provides that the appointee must receive the indorsement of the postmaster of Marquette. Jacobs knew that it would be useless to refer the matter to Harlow for indorsement, because Harlow knew that there was no necessity for a postmaster at Carp River.

Jacobs was lost in thought for a moment and then said:

"We will send this appointment for indorsement to Mr. Ashmun, the postmaster at the Sault. And we'll all sign it."

Capt. Caldwell volunteered to take the application to the Sault. In the course of two or three weeks a mail bag with complete postal equipment came for Peter White, together with his appointment as postmaster at Carp River. Peter viewed his new office with considerable fear. He was afraid that his employer, Mr. Harlow, postmaster of Marquette, would incontinently discharge his clerk, the postmaster of Carp River. But Harlow took no cognizance of his rival. All mail, of course, came to the village of Marquette. Gradually, it was noted, however, that more mail was addressed to the postoffice at Carp River than was addressed to Marquette. A circumstance which aided this diversion of the mail was the fact that Harlow held the postoffice in his house. There was ever present, therefore, that delicacy which prevents a man from freely entering another one's home, even when public affairs call him there. Peter held his postoffice in the store, where everyone, of course, felt himself free. The residents of Marquette were putting the words "Carp River" on their letter heads while writing.

The diversion of the mail eventually became so complete that Harlow was merely receiving and transmitting the mail of his own family. The stamp of the Marquette postoffice was therefore placed upon an extremely limited number of letters, while the stamp of the Carp River postoffice on an adjoining lot was being imprinted upon hundreds. The postoffice department finally concluded that the population of Marquette was well nigh extinct but that the population of Carp River was growing rapidly. When the postal department reached this conclusion it notified Mr. Harlow that the postoffice at Marquette would be discontinued as follows:

Post Office Department,
Appointment Office,
August 20th, 1852.

Sir:—

I have the honor to inform you that the Postmaster General has discontinued the Post Office at "Marquette," Marquette Co., Michigan, of which A. B. Harlow was Postmaster. This leaves "Carp River" with Peter White as Postmaster for that town.

I am very respectfully,
Your obedient servant,
NATHAN G. KING,
Acting First Assistant P. M. General.

This constitutes probably the only instance on record where a town of 1,500 inhabitants had two postoffices. The mail of Marquette continued to bear the Carp River stamp for some time thereafter, or indeed until the inhabitants suggested to Peter White the advisability of writing to Washington and having the name of the Carp River postoffice formally changed to Marquette. This was later done, and Peter White continued in office as postmaster altogether for twelve years.

CHAPTER VII.

FIRST LAKE SHIPMENT OF IRON ORE

THE pioneers in the iron industry in the peninsula had little money. There was no influx of eastern capital to help them over the periods of depression. They were compelled to take all the knocks that adversity had to administer, and some of them were pretty severe. The weaker failed; but those who had faith in the ultimate development of the mines gripped a tighter hold and hung on. Men placed in crucibles of fire come out either heroes or villains. The cruel process develops some and destroys others. The struggle certainly bred a race of hardy men and a few of them were even great. Peter White, the boy, had the advantage of association with those men, and could not fail to be improved by it.

It has been told that the only method of bringing ore to the lake from the mines was by means of sleighs during the winter time. It became apparent that if any considerable business was to be done the means of communication would have to be improved. The average load of a sleigh was 3,600 pounds, or a little less than 1½ gross tons, and it was impossible for a team to make more than one trip a day. Indeed the whole winter's haul rarely exceeded 1,000 tons. Morever, it began to be apparent that the great business of the region was to be done in the mining and shipping of ore, and not in the manufacture of blooms. Among the men attracted to the peninsula was Heman B. Ely, who, as soon as he saw the deposits recognized the need of a railway. He approached both the Cleveland and Jackson iron mining companies upon the subject, and in November, 1851, drew up an agreement wherein he agreed to build a railway from Marquette to the Jackson and Cleveland mines in consideration of receiving the carrying trade of both companies at certain reasonable rates of toll. The companies agreed to pay $1 per ton for the transportation of ore over the road during the first two years and 50 cents thereafter until the amount reached an annual total of 70,000 tons, when a graded rate gradually diminishing to 30 cents, when 125,000 tons per annum had been reached, should obtain. This road was to be known as the Green Bay & Lake Su-

perior Railroad Co., a title which sufficiently indicates that Mr. Ely had in mind its extension to that other ore outlet upon Lake Michigan. Mr. Ely, however, had difficulty in enlisting capital in the enterprise. Men with money looked coldly upon the project of building a railroad in a wilderness and the undertaking consequently lagged. Money was, indeed, so stringent that upon one occasion in 1852 Mr. Ely had to sell some of his provisions in order to obtain the means wherewith to get out of the country. This act caused Mr. Tower Jackson, the first mining agent of The Cleveland Iron Mining Co., to deliver a philippic against steam railroads in general, and to declare that a plank road was precisely what the region needed. He maintained that a plank road would promote agriculture in that it would be of direct benefit to the farmers and would stimulate ore shipments in that it would provide a means of communication to the mines all the year round. A steam railroad he insisted would merely fill the pockets of eastern capitalists and ruin the iron country. To Mr. Jackson belongs the credit of having first suggested the plank road, now of historic memory.*

Meanwhile Peter White performed an important act. He made a bit of history. He wrote the bill of lading of one of the earliest shipments of ore that ever left the upper peninsula. The shipment consisted of six barrels and was consigned to B. L. Webb of Detroit, by the Marquette Iron Co. It was shipped to Sault Ste. Marie on the steamer Baltimore. This bill of lading has fortunately been preserved, and in now hanging on the wall in the office of Oglebay, Norton & Co., Wade Building, Cleveland, in an appropriate frame. A fac-simile of it is herewith reproduced.

The Cleveland and Jackson companies waited patiently for over a year for Ely to begin the construction of his railroad, and perceiving no signs of any movement on his part, undertook jointly the construction of a plank road from the lake to the mines. This was a considerable undertaking and was prosecuted with as much vigor as any undertaking could be which was nearly 1,000 miles removed from the supervision of the home office and which had to be built under adverse financial

*Following is the context of Jackson's letter to the Cleveland company:

"Dec. 5, 1852.

"We want a plank road to the Cleveland mountain. It would be better than a railroad, for if we had a plank road we could haul the year around and the farmers can haul you all the coal you want which you cannot transport on a railroad. A plank road would build up you a nice town and a railroad will not. One hundred teams which would run daily on a plank road would occupy a good many men and teams and the people would settle here and clear up farms, make coal and haul their product to market, and that would make the country prosperous; but a railroad will fill the pockets of a few eastern men and that would be an end to your business. The only prospect of a railroad in my opinion is that it never will be built. Mr. Ely, the agent, had to sell some of his flour to get money to go down with at $5.50 per barrel when he had just come from below. I think that looks squally."



No.

Marquette July 4th 1862

Marquette & Sault Ste Marie

Shipped. In good order and well conditioned, by the Chippewa Planing Co., as Agents and Forwarders for account and risk of whom it may concern, on board the Baltimore called the _____ whereof B Nilson is Master, now lying in this Port and bound for Sault Ste Marie the property enumerated below, to be delivered in like good order at the Port of Destination, (the dangers of navigation and fire excepted,) and to the Consignees noted in the margin, or to their assigns, upon the payment by them of the freight and charges as noted below. It is hereby agreed by the said Master that it is part and parcel of this contract, for affreightment of said Goods, that the said charges shall be collected and paid over to us, or as we may direct, in consideration of our having shipped the said Goods by said Vessel.

G. W. Pattison, Printer, Bulletin Office.

In Witness Whereof, The Master or other authorized Officer of said Vessel hath affirmed to Four Bills of Lading, all of this tenor and date, one of which being accomplished, the others to stand void.

B L Wolf
Detroit

1 Bbl Ore

W M Mann
West Aurora
Erie Co
N Y

1 Bbl Containing Ore
Leather Thongs
Our Chgs 44 50

Carr
Foote & Co
Seneca Street
Buffalo

Chgs 1 St

FAC-SIMILE OF BILL OF LADING OF THE FIRST SHIPMENT OF ORE. THIS BILL OF LADING IS IN PETER WHITE'S HANDWRITING.

circumstances. Director after director of the Cleveland and Jackson companies visited the iron region to superintend the work and the most energetic of all was Dr. Morgan L. Hewitt, the first president of the Cleveland Company.

Another undertaking which like the railroad seemed almost a dream was the construction of a canal around the rapids of the St. Mary's river, connecting Lake Superior and Lake Huron. It was a dream because it had been discussed for years and seemed no nearer realization than in the beginning. There was absolutely no sympathy in Washington with the enterprises of the peninsula. Daniel Webster's declaration, that never would he vote one penny to bring the bleak, barren, rocky and uninhabitable shores of California one step nearer Boston, was on a par with a similar declaration of Henry Clay, who, in discussing the project to build a canal around the rapids of St. Mary's river, to use his express language, said that it was "a work beyond the remotest settlements in the United States, if not in the moon." Clouded and confused opinions also obtained in the minds of statesmen as to the constitutional rights of congress to improve rivers and harbors and to construct canals around rapids—opinions which seem strange nowadays but which were nevertheless sufficiently potent at the time to split political conventions asunder.

The discovery of iron, however, following that of copper, brought its commercial importance more clearly before Congress. The iron pioneers had sent John Burt to Washington to lobby for the measure. In 1852 Congress granted the State of Michigan 750,000 acres of land for the purpose of aiding in the construction of a canal around the falls of St. Mary's river, and in consideration of it a number of gentlemen undertook the construction of the canal, as will be related shortly.

In May, 1853, the Marquette Iron Co. gave up the ghost and Dr. Morgan L. Hewitt moved his small family to Marquette—two most important events in the life of Peter White—for through the first he became connected with the Cleveland Company and through the second he met Ellie Hewitt, Dr. Hewitt's daughter. The Marquette Iron Co. had had a hard time of it. Mr. W. A. Fisher, the capitalist of the company, gradually lost heart when he found that the Cleveland company had really a prior right to the claim and his support for two years had only been lukewarm. It was a constant drain upon his resources, with mighty slim chances of any return, and he welcomed the opportunity extended to him by the Cleveland company to reimburse him for the improvement which he had made. Indeed the Cleveland company exhibited the utmost generosity toward its rival. It

purchased the assets of the Marquette company and incidentally purchased Peter White, who was keeping the store for the Marquette company. All the stockholders of the Marquette company were satisfied, with the exception of Graveraet, who recognized in it the bursting of his industrial bubble. Included in the assets of the Marquette company was the lease for the undivided one-half interest in the Lake Superior location, which Graveraet had secured from Burt. Graveraet insisted that he had never received any consideration for this interest, and that it was no part of the Marquette company's property. He claimed it as a part of his individual estate, which the Marquette company, not being an incorporated body, had no right to transfer, and his contention was sufficient to give the Cleveland company considerable concern, though it was later effectually quieted by Peter White.

CHAPTER VIII.

FIRST USE OF THE ORE IN PENNSYLVANIA AND OHIO.

IT has been related that Peter White shipped six barrels of ore to B. L. Webb, the secretary of The Jackson Iron Co., in 1852. It might be well to follow these early shipments and trace them through the furnaces of Ohio and Pennsylvania because they certainly constitute the first use of Lake Superior ore in a blast furnace. In September, 1853, the Cleveland company shipped to the Sharon Iron Co., Sharon, Pa., 152 tons of ore for use in its blast furnace. It took four vessels to move the ore from Marquette to Sault Ste. Marie, where it was portaged over the falls. It was landed at Erie, Pa., and sent by canal to Sharon. The first boat load was delivered at the Sharpsville furnace, owned by David and J. F. Agnew. Describing the event David Agnew wrote:

"The ore was used in the furnace partly alone and partly in mixture with native ores and the experiment was highly successful, the furnace working well and producing an increased yield of metal, which was taken to the Sharon Iron Works and there converted into bar iron and nails of very superior quality. The second boat load was also brought to Sharpsville, but having been intended to be left at the Clay furnace, owned by the Sharon Iron Co., was returned and used at the establishment."

General J. P. Curtis, president of the Sharon Iron Co., wrote the following letter to the Cleveland Iron Mining Co. concerning the test:

"As you are anxious to hear the result of our test of Lake Superior ore in a blast furnace, I hasten to give it to you. It was fully successful, more than we asked for. We worked the furnace for several days on Lake Superior ore entire, no mixture whatever with it, and yielded fully 80 per cent of metal per ton. We have not tried the metal, but it looks very well and there is no doubt of its quality. This settles the question as to the matter of converting the ore and calls for a road at once. There are furnaces now built on the canals, on the Cleveland and Erie, to use all the ore that we can mine the first year and there should be no delay in pushing our road and dock."

It was indeed the very circumstance of this initial success that changed the destiny of the old plank road. It was decided to convert it into a strap railroad at once and the rails were accordingly sent up from Sharon.

Fierce has raged the controversy as to whether these early shipments were really successfully smelted as far as furnace practice is concerned. The iron produced was of good quality, but it left the furnace in a bad state. It must be remembered that the blast furnaces of those early days bore little relation to the blast furnaces of today. Mr. Frank Allen, the manager of Clay furnace, has always insisted that the initial working of Lake Superior ore at the Sharpsville furnace in 1853, was not a success. In a letter to the Sharpsville Advertiser he wrote:

"On the last day of November, 1853, one of the proprietors of the Sharpsville furnaces said to me that they had tried more experiments with that ore than had been profitable and that they would never put another pound of it into their furnace. The same day Samuel Clark boated a load of the ore from the Sharpsville furnace to the Clay furnace landing. We put it through the furnace and sent the product to Sharon. The next season all the Lake Superior ore left over at Sharpsville furnace was sent over to us and during the years 1854-55 and until August, 1856, we had used in all about 400 tons of Lake Superior ore, some of it alone but most of it mixed with other ores and up to that time the working of it was not a success. In October, 1856, we gave Clay furnace a general overhauling, putting in new lining and hearth, and made material changes in the construction of the same, put her in blast late in the fall and in a few days were making a beautiful article out of iron from Lake Superior ore alone, and this was then considered to be the first real and successful working of Lake Superior ore in a blast furnace."

When Mr. David Agnew saw this article in the newspapers he replied as follows:

"I have no desire to engage in newspaper controversy with Mr. Allen in regard to the first successful working of Lake Superior ore in the blast furnace; still I cannot let his article pass unnoticed. I should have replied sooner but wished to hear from my brother, J. P. Agnew, before doing so. My brother and myself were the proprietors of the Sharpsville furnace at the time referred to. He writes:

"'I notice Mr. Allen's article published in the Sharpsville paper and am greatly surprised at its contents and am sorry to have to contradict his statements. All the circumstances connected with that event (the working of the ore) are as fresh in my memory as if they had transpired within

the last month. By arrangement with Gen. Curtis, president of the Sharon Iron Co., and at his desire, as well as our own, a quantity of the ore (I think about thirty tons) was ordered, which, however, cost about as much as pig iron was worth at the time, being subject to a long wagon transportation. This ore we worked in our furnace very satisfactorily. Indeed our furnace never gave better results than while working this ore. We commenced by charging one-fourth Lake Superior and three-fourths common ore. The iron thus produced was worked at the Sharon rolling mill into boiler plate, bar iron, nails, spikes, etc., samples of which were shipped to New York and there submitted to the usual tests, and declared to be of the very best quality.'

"So much for my brother's statement. In regard to the shipment of Lake Superior ore from Sharpsville to the Clay furnace, I have to say that the second shipment of lake ore to Sharpsville was in mistake. The Sharon Iron Co., having purchased Clay furnace, wished to work the ore there and directed it to be left at that furnace landing but the boatman by mistake brought it on to Sharpsville, from whence it was reshipped to Clay furnace for the reason stated and that only. Now, in view of all these facts, am I not justified in claiming that D. and J. P. Agnew were not only the first to use, but to use successfully, Lake Superior ore in the production of pig iron?"

Mr. Allen then grew earnest and wrote:

"I have very repeatedly said within the last twenty years that Lake Superior ore was never successfully worked in a blast furnace at Sharpsville, Clay furnace or elsewhere in the Shenango valley until it was done at Clay furnace late in the fall of 1856. And now I repeat it again with emphasis. I know that it was not done at Clay furnace, and will briefly state why I believe that Agnew brothers did not work it successfully at Sharpsville. On the morning of Nov. 30, 1853, the late Gen. J. B. Curtis, president of the Sharon Iron Co., did, at their office in Sharon, and in the presence of Mr. D. Agnew (then bookkeeper for said company) say to me, 'I have this morning sent Sam Clark to Sharpsville with his boat to get a load of that cursed ore and take it to Clay furnace landing, and want you to put it through the furnace and send the iron from it here, that we may have it made into iron and nails, before the annual meeting of our stockholders,' which was soon to be held.

"I replied to him that the road from the furnace to Canal landing had been so badly cut up by hauling over it, and now partly frozen, that it was now almost impassable, and said to him: 'Why not have Messrs. Agnew

put it through their furnace and save hauling both ore and iron over such very bad roads.' Here and then Mr. David Agnew turned from the table on which he had been writing and said: 'We have tried more experiments with that ore than has been profitable, and will never put another pound of it into our furnace,' and I verily believe that they never did use any more of it.

"I then started for home and without stopping at the furnace, rode on to the canal landing, engaged John Buchanan to assist me in placing plank to unload on to, and left him there to help Mr. Clark unload his boat when he should arrive. The same evening I reported to Mr. C. Davis, our founder, that there would be a load of Lake Superior ore at the landing some time during the night, and also that Gen. Curtis' instructions were to put it through the furnace without delay. Here I encountered a very strong opposition, Mr. Davis refusing to have it put into the furnace, saying that it had never been and could not be worked in a blast furnace successfully; that he had blown the Sharon furnace for Mr. Agnew a few years previous; had been at Sharpsville repeatedly since the ore had been received there, and knew all about the success they had had with the small amount worked in their furnace, and finally closed by saying that if Gen. Curtis wanted a boat load of that ore put through Clay furnace he might come and direct the putting of it in himself, and if he stayed until it came out in the shape of pig iron he would stay a long time. I replied that Gen. Curtis' orders must be obeyed, and if the furnace chilled up or was lost on account of using the ore we had nothing at stake and would not be blamed. He said: 'You may feel that you have nothing at stake but I have.' I asked what. He replied: 'My reputation as a founder, and I pride it as highly as Gen. Curtis does his money.' And thus we parted for the night.

"On the 5th of December, 1853, we commenced using the ore, put in a few charges mixed with native, and then charged with Lake Superior ore alone. Were glad when it was all done. Mr. Davis and I were well satisfied that if there had been much more of it the furnace would have been in a bad condition. It took several days to get the hearth clear as it was. We sent seventeen tons of the iron to Sharon. I also attended a meeting of the stockholders above referred to, and there, in the office of the company found a large amount of iron, nails and spikes of a superior quality, said to have been made from the Lake Superior iron we had sent there a few days previous. During the years 1854-55 we worked several hundred tons of Lake Superior ore but not successfully. When charging

the furnaces with lake ore alone we could run but a few days, and then resorted to mixing; and as regards the quality of iron made it was not considered good for forge purposes, which I doubt not Mr. D. Agnew recollects. I well remember of once receiving an order from the Sharon Iron Co. for a boat load of our best mixture and we shipped it by Capt. Pat Sullivan, selecting the very best we had. The next day while eating dinner the captain called at the door, and for a few minutes it was nothing but 'them d—d fellows at the mail, and Gen. Curtis and Mr. Agnew and that d—d iron.' He handed me a letter from Mr. Agnew, the contents of which as near as I recollect, was this: 'Mr. Allen—The iron you sent us is not suitable for our purpose. We sent it back. Either have it unloaded at the landing or send it to Erie as you think best.' Having plenty of the 'd—d' mixture on hand we gave Pat a new shipping bill and he went on his way rejoicing.

"In the fall of 1856 at the request of Mr. Samuel H. Kimball, president of the Sharon Iron Co., I fitted Clay furnace up with a new lining based upon my experiments of three years back. We blew in about the last of November, and immediately after the statement of our first week's work had been received by Mr. Kimball at Cleveland, Mr. Garrett and Dr. Hewitt came to Sharon. Gen. Curtis brought them to Clay furnace in his carriage and the first thing Mr. Garrett said to me was, 'Mr. Kimball has shown us your weekly statement about the working of lake ore in this furnace, and we don't believe it is correct. We don't want to be humbugged any more about this matter and will stay with you until we are satisfied that you are not trying to fool anybody.' They did stay until they were satisfied that all was right.

"In a short time many of the eastern stockholders of the Sharon Iron Co. paid us a visit, the late Major M. C. Trout with them. I cannot name all of them now, but among them was Mr. Oliver of Philadelphia, Shelton of Connecticut, Greer, Hix and Cook of New York. They remained with us one day, and were wild with excitement, as well they might be. The great problem had been solved. Lake Superior iron ore for the first time had been successfully worked and the large amount they had invested in it would not be lost. And how was it with us poor devils at the furnace who had been working for three long years to accomplish this great and grand result? We felt like new men. Instead of cursing Lake Superior ore and wishing it all safely landed in hell, or some other seaport, the more that was sent us the better we were pleased.

"And now a few words in reply to Mr. Agnew's article and I have

done. He said he worked thirty tons Lake Superior, mixed with native ore, and while so doing changed the burden four times and was satisfied with the result. I would like to know why he did not use more of it—at least the balance that he had burnt and fitted ready to put into the furnace. Was this a mistake to have a large amount burnt when there was but a few tons to be used? If so, to say the least it was a foolish waste of labor and fuel. And right here I would say to J. P. that there are men living that worked at the furnace while this puny test was being made whose recollection of the success attending it differs very materially from his.

"The fact is that previous to November, 1856, all furnacemen that had tried Lake Superior ore were in the fix the family were that ate the cat. When they had taken a mouthful apiece all round they wanted no more. I cheerfully accord all credit to the Messrs. Agnew for having worked thirty of the first 429 10-10 tons of Lake Superior ore shipped into this valley, yet contend that there was not enough used (and it was mixed with other ore) to satisfy any practical furnacemen that the test thus made had been thorough and successful. What! Thirty tons if used alone would not fill a furnace half full, and not more than enough to last one of our furnaces fifteen hours when in full blast. Is there a man on earth that would invest his money in building a furnace for the purpose of working ore that had been thus tested and thus only? No. You might as well put it through a coffee mill, then into a pepper box, shake it over the trunnel head once a day for a week, and then come to him and say that the ore had been worked successfully in a furnace and the iron made from it A No. 1."

The extended remarks of Mr. Allen caused Mr. David Agnew to make the following reply:

"I presume Mr. Allen will admit that the first attempt to use Lake Superior ore in a blast furnace was made at the old Sharpsville furnace. If so, the only matter in controversy is: Was the result of that trial successful? My brother, who was in charge of the business, was present at the time and had therefore the best means of knowing the facts, says: 'This ore was worked in our furnace very satisfactorily. Indeed our furnace never gave better results than while working that ore,' and proceeds to state how the ore was used, the quality of the iron, etc. Does this indicate failure? But Mr. Allen says that in the presence of himself and Gen. Curtis I acknowledged the experiment to be a failure. Admitting that such an interview took place, of which I have no recollection, still Mr. Allen must have entirely misapprehended the language used on that occasion. I

believed then and have ever since believed that it was a success. That I should have asserted the contrary is not at all reasonable. The great cost of the ore, as explained in a former communication, was of itself a sufficient reason for not wishing to continue the experiment any longer than to prove its adaptation to furnace use and to judge of the quality of the iron. Both these objects were demonstrated to our entire satisfaction. We could not have continued the experiment if we had desired to do so, from the fact that the second shipment of ore was intended to be used at Clay furnace, owned by the ore company, and was consequently reshipped from Sharpsville (where it was brought in mistake) to Clay furnace for that purpose. Mr. Allen ridicules the idea that any correct opinion could be formed of the working, or of the metallic qualities of the ore from the small quantity employed. I readily admit that such a quantity of ore in one of our present furnaces, yielding thirty to forty tons per day, would afford no proper test of its quality in either of these respects but the trial under consideration was made under entirely different circumstances.

"The average product of the Sharpsville and other furnaces in this valley at the time of this experiment was only about four tons per day. Thirty tons of Lake Superior ore mixed with the common ores, as explained in my last, was sufficient to produce at least thirty tons of metal, and allowing one or even two tons per day additional for the increased percentage of iron in the mixture would supply the furnace for five or six days. Will Mr. Allen say that such a trial affords no ground on which to base a correct opinion of the result? I have no desire, nor is it necessary that I should impugn the veracity of my worthy friend. He evidently got a wrong impression in the beginning, hence the error into which he has fallen. Having, as I think, presented sufficient evidence of the fact that my brother and myself were the first to use, and to use successfully Lake Superior ore in the production of pig iron, I now take leave of the subject with the kindest feelings for my respected but mistaken competitor for that honor." DAVID AGNEW.

Mr. Allen concludes the controversy with the following letter:

"If our respected friend, D. Agnew, Esq., thinks that his last article will satisfy any practical furnacemen that the working of Lake Superior ore in the old Sharpsville furnace under his administration was a success, he is mistaken. We, at Clay furnace, succeeded much better with the first boat load, sent us in December, 1853, as we worked enough of it alone without mixing other ores, to produce fully seventeen tons of iron, and while so doing, did not have to cast over the dam. And yet we know that

neither of the furnaces in the shape they were then, could have been run on Lake Superior ore alone two days in succession successfully. To prove this fact we have only to refer to Mr. Agnew's article. He says it took them six days to put thirty tons through the Sharpsville furnace, making about four tons of iron per day. Now why was it that this same old Sharpsville furnace in 1859, under the management of John J. Spearman, Esq.,* and being no larger or better than when Agnew owned her, was making from twenty to thirty tons of excellent iron per day (as much in a day as Mr. Agnew could make in a week). It was simply this: Mr. Spearman in having her fitted made the changes in the shape of lining, hearth and bosh, that we adopted at Clay furnace in 1856 when Lake Superior ore for the first time, was successfully worked in a blast furnace without mixing.



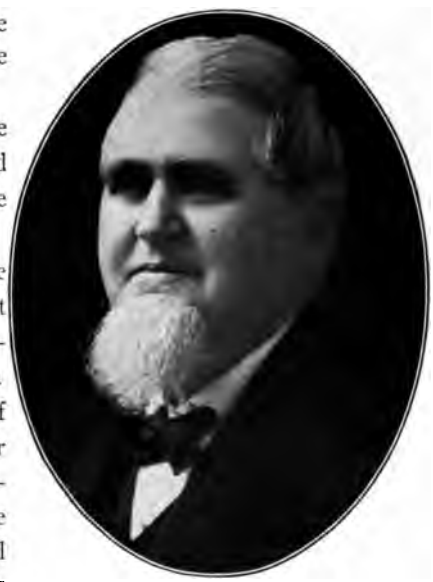
JOHN J. SPEARMAN AT 22.

"As stated in a former article we wish to accord to Mr. Agnew all honor for having worked thirty tons Lake Superior ore mixed with native ore, and that, too before any Lake Superior ore had ever been received at Clay furnace, even if it did take

*John J. Spearman was born at McKee's Gap, eight miles from Hollidaysburg, Bedford county, Pa., Dec. 27, 1824. His father was a miller and the Spearman homestead later became the site of Dr. Peter Schoenberger's Martha furnace. Spearman began work at the age of eleven years manipulating leather blacksmith bellows which forced air into the shaft to the working miners at the Hopewell ore mine at Bedford county, Pa. From bellows boy he was promoted to the position of driver of a horse and cart. He left the furnace business at the age of fifteen and entered a general country store, returning two years later to Dr. Schoenberger's employ at the Sarah furnace. In the spring of 1842 he was employed in the Rebecca furnace in Huntington county as a bookkeeper and head clerk, remaining until 1845. He was then transferred by Dr. Schoenberger to the Maria forges as assistant manager of the works. In 1847 Dr. Schoenberger acquired an interest in the Sharon furnace, Sharon, Pa., and Spearman, who was then twenty-three years of age, was transferred there as assistant manager. In 1852 he bought the Mazeppa furnace on his own account.

He was manager of the Sharpsville furnace during its early experience with Lake Superior ore. In 1862 Mr. Spearman entered the employ of James Wood & Sons, Wheaton, Pa., and the next year became partner, selling his interest out, however, in the year 1870. In the fall of 1871 he organized the Spearman Iron Co. This plant was sold to W. P. Snyder of Pittsburg in 1901. Mr. Spearman is at present president of the First National Bank, of Sharon, Pa., and notwithstanding his great age attends regularly to his duties at the bank every day.

six days. And we now say that if it had taken six months to get this trifling amount through their furnace we would still be willing to give them all praise for having done it. We spent three years at Clay furnace experimenting with lake ore, and notwithstanding the fact that during the whole of that time we succeeded much better than Mr. Agnew ever did at Sharpsville, we never worked it successfully until the fall of 1856."



J. J. SPEARMAN.
From a photograph taken in 1907.

The following letter corroborative of Mr. Allen's contention was received from J. J. Spearman, owner of the Sharpsville furnace:

"The first Lake Superior ore worked in the Shenango Valley was at the old Sharpsville furnace, then operated by D. and J. P. Agnew; only a small quantity was used in a mixture of native ores. The first Lake Superior ore worked alone was at the Clay furnace (now abandoned). This furnace was owned by the Jackson Iron Co., and managed by Mr. Frank Allen. This furnace was the first in the Shenango Valley, and as far as I know in the United States to use alone and successfully work any large quantity of Lake Superior ore."

There is corroboration also of Mr. Allen's contention in the following letter sent to W. J. Gordon, president of the Cleveland Iron Mining Co., by M. C. Trout, a director of the Sharon Iron Works:

"Oct. 27, 1855.

"W. J. Gordon:

"The experiments with Lake Superior ore in blast furnaces have not been made under circumstances to enable me to state the best method of using it. The improvements now being made at Clay furnace will enable us to test that metal this fall or winter. The usual method of lining a boiling furnace

is to build around the sides of the furnace while cold with small lumps of ore and then when the furnace is heated melt sufficient ore to fill up the crevices by dashing the melted ore against the sides with a furnace bar. The bottom of the furnace is generally made by melting scraps and spreading on the bottom some two or three inches thick.



M. S. MARQUIS IN 1850.

"Yours truly,

"M. C. TROUT."

It is quite well authenticated that the first person to manufacture iron from Lake Superior ore in Ohio was Charles Howard, proprietor of the Falcon Iron Works at Youngstown. Howard's first order was for 500 tons at $8 per ton and was placed with The Cleveland Iron Mining Co., in August, 1856. It was shipped to him via the canal.* Howard had established the Falcon furnace a few years previously. Describing his experience in later years in a letter to Mr. J. H. Sheadle, secretary of the Cleveland Cliffs Iron Co., he said:

*The letter appended herewith from Capt. M. S. Marquis, of New Castle, Pa., illustrates quite picturesquely the conditions surrounding the transportation of early shipments of ore by canal. Capt. Marquis and Capt. John Reeves of Beaver Falls are the two oldest surviving canal boat captains. Capt. Marquis is now a banker, being president of the Home Trust Co., and has not for many years been connected with canal work. Concerning his early experience he writes:

"The Alpha was the first boat to run from New Castle to Pittsburg. When she was built I was four years old. I drove on the canal in 1845. In 1846 I run my first boat, which was called the Farmer. In 1848 I ran the Ashland Farmer, belonging to Capt. John Reeves, and carried 75 passengers out of Cleveland. In 1849 I run the Aliquippa for four months, then I bought the J. H. Whistler from Capt. Green. I then built several boats, the names of which as near as I can remember were as follows: Arabella, Youngstown, F. K. Beshore. I also built the following steamboats: Seagull, Monitor, Hemrod and Sligo. Then I built two horse boats, named the O. H. P. Green and M. S. Marquis. Other boats which I bought and owned for some time I cannot remember the names of, but I had at one time fourteen boats.

"I think in 1848 I freighted gray ore from Cleveland to Pittsburg, for a firm named Forsythe, at $3 per ton. I also carried copper ore: it was in large pieces, weighing one, three, four and five tons each. It was melted by C. C. Hussey & Co. in Pittsburg. I think the gray ore was used as "fix" in puddling furnaces. There was not much ore used before the railroad was built. I think there was a little furnace at Niles, O., of about two tons per day capacity; one at Brier Hill, capacity about ten or fifteen tons per day; and one at Lowellville about the same capacity. Rhodes & Co., Bingham & Co., L. O. Matthews, and Chamberlain were the shippers.

"In 1847 or 1848 a company of Welshmen built a furnace in Summit county, Ohio, not far from a place known as the Old Forge, near Akron, Ohio, and expected to get the coal from a mine that was being worked a little near Tallmadge, five miles from Akron. They put up a good stack and good machinery, but after several trials found out that the Tallmadge coal would not do for smelting, so they quit, gave up the whole thing as a failure, leaving machinery and everything standing there. I bought the whole thing for a small sum, took it down and moved it to Youngstown, built the Falcon furnace and used the Welshman's machinery and everything else I could use. I had saved up $700 of my salary, and I thought I was rich enough to be an iron master on my own account. I found out later that $700 was not anything like enough money to build and run a blast furnace; so after running one year I sold out to James Wood & Co. of Niles, Ohio, went to Massillon, Ohio, and built the first Massillon furnace for Marshall Wellman, who was president of the Massillon bank. Later I returned to Youngstown and bought back the Falcon. I rebuilt the stack and made improvements of different kinds but the iron made from the lean ores from about Youngstown was not just what was altogether suitable for the Pittsburg rolling mills in making iron and nails. That being the principal market ore that would mix with the native ore and improve the quality of the pig iron was much desired and sought after. So in 1856 when I saw a notice in the Cleveland Herald that the Cleveland Iron Mining Co. had received a cargo of Lake Superior ore and was prepared to



JOHN T. REEVES. M. S. MARQUIS.

"I think I must have owned in all about twenty or twenty-five boats. I would be four days and nights going from Cleveland to Pittsburg. It was slow traveling, but there was plenty of fish and game. The passengers would hunt and fish, as they could walk four miles per hour, and my boat traveled only two. This gave the men a good time to hunt, and the ladies would walk ahead and fish. I sometimes had in all seventy-five passengers, some of whom were emigrants."

supply blast furnaces and rolling mills on reasonable terms I made a trip to Cleveland in order to see the ore and get some idea of what it would yield and what it would cost delivered in Youngstown. I met with the president and with Mr. Tuttle, who was secretary, and found them to be anxious to have the furnaces commence the use of their ore. They said they were prepared to furnish a steady supply, so I made arrangements with them to send me a few carloads at once. Let me say that the idea prevailed at that time among the furnacemen that Lake Superior ore could not be smelted with raw coal; that the ore would have to be roasted first and the coal made into coke before using. But there was nothing of this necessary. It worked nicely from the start, improving the quality of iron by giving it body and very much increasing the output of the furnace per day and making the cost per ton for labor less, and the iron more salable as well."



CHARLES T. HOWARD.

CHAPTER IX.

PETER WHITE AND HIS DOG SLEDS.

THE work of converting the plank road into a strap railroad and the growing fame of the iron hills had caused quite an influx of people so that Marquette was beginning to have quite a respectable number of inhabitants. These recruits saw the last boat depart and the winter close in upon them with feelings of uneasiness, which gradually gave way to uncontrollable impatience when they realized that they were not going to get any mail during the entire winter. It was the old story over again. In fact the last mail was delivered on Oct. 17. On Jan. 8, 1854, the people could stand it no longer and sent for Peter White to attend a mass meeting which they had called. Intense and fervent speeches were made, but all had the same ending—that Peter White should go for the mail. No one else was thought of. He was regarded as some mysterious genie who with a dog and sled could penetrate the trackless wilds and bring the precious mail out of its hiding place. So with six Indians and three dog teams of three dogs each, Peter White again went after the mail. Peter and the Indians took away nearly 1,000 letters to be posted. They plunged into the woods at the mouth of Carp river, but found snow-shoeing tedious work, as the snow was very soft. On the seventh day, while making slow work of it in the deep, wet snow which covered the ice of Cedar river, near the waters of Green Bay, they espied in the dim distance what appeared to them at first like five immense loads of hay slowly crawling toward them. A little later the strange spectacle came more definitely into view and was seen to be five double teams with five sleigh loads of United States mail, bound for Lake Superior places, via Escanaba and Marquette, in charge of Daniel M. Whitney, of Green Bay. This mail weighed between seven and eight tons. It may be imagined that the meeting of these two caravans was most joyful.

Mr. Whitney said that the postoffice at Green Bay was filled to overflowing with mail and that the postmaster at that place had taken the most doubtful responsibility of employing him to make one trip. Whitney

had engaged ten men, Indians and French, to help him. Peter White took charge of the party, and loading up his dog sleds with the contents of one of the sleighs he sent the entire party, dogs, sleds, French and Indians on to Escanaba and Marquette while he and Mr. Whitney drove in the sleigh which had just been unloaded to Green Bay.

It might be well to follow the mail before following the immediate adventures of Peter White. After great tribulations, delays and troubles, the mail reached Marquette on Jan. 21, which was really very good time considering the fearful conditions of the roads, which were made almost impassable by melting snows. The dog teams were dispatched ahead of the others with the letter bags. Nearly half the population of Marquette went down as far as the Carp river to meet the mail and to help carry it into town. As the savages of some of the southern climes are wont to gorge themselves with food to unspeakable excess and then sleep for days thereafter, so did the people of the little village give themselves up to a riot of reading. No work was done for two days. The paper mail came a week later but it was so worn and wet that most of the addresses were undecipherable. However, that was no matter, as perfect communion prevailed in the ownership of newspapers in those days.

Meanwhile the subject of our story was holding a heated argument with the postal authorities and with Gen. Lewis Cass, who was Michigan's representative in the United States Senate. On his arrival at Green Bay, he found that Mr. Hicks, the postmaster, had on hand twenty-four bags of mail matter for Lake Superior. Each bag held four bushels. He found, moreover, that the mail was accumulating at the rate of six bushels a day, and the Green Bay postmaster was in a quandary as to what to do with it. He had employed Mr. Whitney to make one trip to Marquette at enormous cost on doubtful authority.

"Something's got to be done," said Peter, who had before him at all times the frenzied population of Marquette, and who did not want to return without the message that he had arranged a definite schedule for the mail.

The nearest telegraph point was Fond du Lac and thither he journeyed to wire Senator Cass. The extraordinary number of words which the young man used (for telegraph tolls were very high then), the vigor of language, the fact that he transmitted the major part of the resolutions adopted by the citizens of Marquette setting forth the immense value of the iron and copper mines and denounced in unmeasured terms the apathy of Gen. Hester L. Stevens, their representative in congress, to the needs

of the community, together with the withering scorn and invective directed against the postoffice department, convinced Gen. Cass that an insurrection was imminent in the peninsula, and he hastened at once to the postmaster general with the dispatch from his impetuous young constituent. But even this was not enough for Peter. He bombarded Cass for two days with telegrams so impudent that he would not dare today to send them to anyone. Gen. Cass replied that he appreciated the importance of his mission and told him that he had written him at Green Bay and to await the receipt of the letter. In three days the letter came inclosing several from the first and second assistant postmasters general, informing him that the Hon. Henry Hart, a special agent of the postoffice department at Adrian, Mich., had been wired to meet him at Green Bay. The telegraph operator sought to beguile away the interval of time by presenting Peter with a bill for $66. Peter was ever a thrifty lad and the size of this bill was to him appalling. He supposed that he had contracted an expenditure of about six dollars. He found some, though not a total consolation, in the fact that it would not have to come out of his own pocket.

In his frequent visits to the postoffice at Green Bay Peter had noticed that the postmaster had accumulated a lot of empty canvas mail bags, perhaps 200 in number, and they were folded double and piled up like stove wood in neat piles in the woodshed attached to the postoffice. The postmaster consented that Peter should try any desired experiment with them provided he did not injure them. So Peter diligently employed the days while awaiting the arrival of Special Agent Hart in making packages of these bags by stuffing them into other bags leaving a vacuum of about 18 in. in the top of each package of bags into which he closely packed mail matter addressed to Lake Superior points. He then carefully closed them with the puckering strings, leaving an opening on top of each bag of 5 or 6 in. with the addressed side of each paper upward, so that the merest look would convince anyone that that was a bag of mail for Lake Superior. Then these deceptive bags were stacked, end on end, in tiers three stories high nearly reaching the ceiling in the back room of the postoffice and woodshed. Thus the thirty odd bags of mail had grown into 120 large bags of mail. When the special agent arrived in the course of four or five days, he surveyed the accumulation of mail with wonder and saw that an emergency existed. He surveyed the accumulation however, upon a full stomach, for Peter was careful to meet him at the stage and to escort him to the Astor House, where a supper of oysters and champagne was given to him before proceeding to business. Peter was very polite indeed to Mr.

Hart. The special agent at once approved the temporary contract that had been made with Mr. Whitney for the one trip and authorized a new contract for one trip a week from Green Bay to Lake Superior. Peter continued to entertain him for two or three days thereafter with such princely liberality that Mr. Hart made an order increasing the service to three times a week before he left. The peninsula never thereafter lacked for mail facilities and Peter White's return to Marquette was one of triumph.

CHAPTER X.

BUILDING THE OLD STRAP RAILROAD.

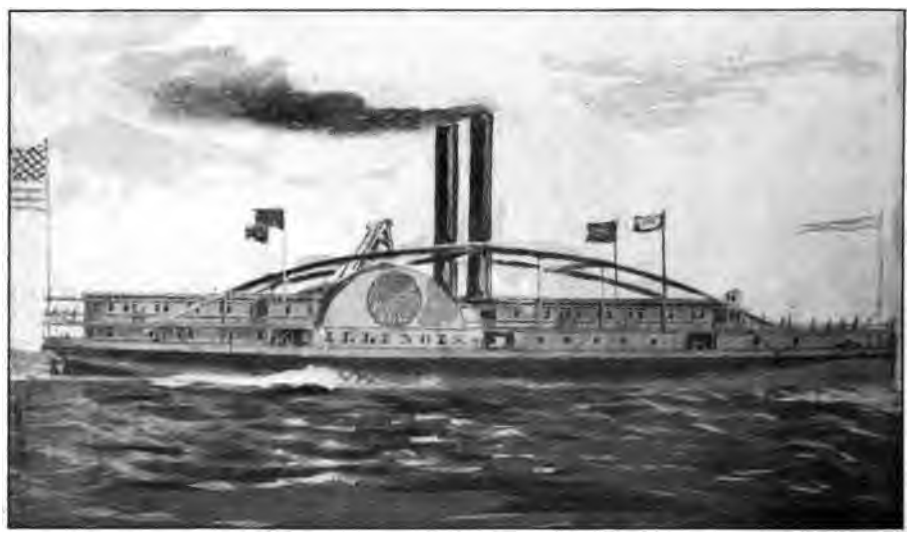
MEANWHILE Peter White was doing a lot of thinking. He saw the gradual unfolding of the industrial panorama and he began to perceive opportunities for making money on his own account. He was shut out from making iron ore investments, for that required capital and he had only his savings. He possessed, however, the natural instinct of a merchant. He was essentially by disposition a buyer and seller, and resigning his position with the Cleveland company he opened a store of his own. He conducted it with profit but sold out when he saw a better opening in the insurance business. He has always had the eyes of a hawk for opportunity. Then he began the business of banking in a small way. When W. J. Gordon, afterward a well known capitalist and philanthropist of Cleveland, visited the iron region for the first time in 1854, having joined the Cleveland company, he was attracted to Peter White instantly—and W. J. Gordon could see through a cast iron vault. To take a man's measure at once was an instinct with him. He was a truly great man, many-sided, bold and complete. He grasped the nature of the iron ore deposits, their marvelous extent and future influence



W. J. GORDON.

almost before any man did.* He saw, too, that Peter White was as sensible a young man as lived in that region and he came to rely upon his judgment. He never submitted a proposition to his directors when he was in the peninsula that he did not first submit to Peter.

But what days of stress and turmoil they were. The Cleveland company permanently abandoned the making of blooms when the forge burned down in December, 1853, and devoted itself to the mining and shipping of ore. There were approximately 1,000 tons of ore on dock when the season of navigation opened in 1854. The winter had been a bad one for hauling the ore in sleighs. The average load was a gross ton and only about fifteen tons could be brought down per day. The tariff for the haul from the mine to the lake was $3 per ton and the price of the ore on dock at Mar-



THE SIDE WHEEL STEAMER ILLINOIS.

quette was $8 per ton. The cost of mining was 50 cents per ton—a magnificent profit, indeed, if any volume of business could be transacted. Nearly the whole of the 1,000 tons of ore on dock when navigation opened in

*Mr. Gordon thus described his impressions of the iron mines in a letter to the Cleveland Company written after his first visit to the mines:

"Aug. 22nd, 1854.

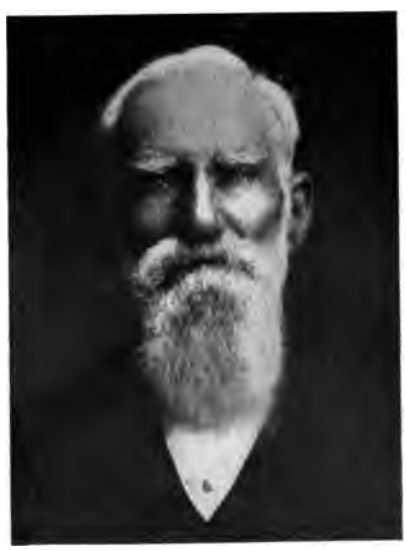
"I visited the iron mountain week before last and have examined our property generally and am entirely satisfied with my investment. It does not vary much from my expectations, as my sources of information before coming here were reliable and intelligent. Yet the mind can scarcely realize the wonderful deposits of iron in our hills without the aid of actual personal observation, it being almost incredible."

1854 was taken by the Forest City Iron Co. It was wheeled aboard the propellers Sam Ward, Napoleon and Peninsula in barrows and dumped upon the deck. At the Sault it had to be unloaded and carried over the portage, where it was again wheeled upon vessels and taken to the lower lake ports.

In the business of portage, Sheldon McKnight and his old gray horse and French cart occupy a picturesque and commanding position in the history of the Sault. This faithful animal had the distinguished honor in 1845 of hauling every pound of freight that passed to and from Lake Superior, a point of special significance when it is borne in mind that today the commerce which passes this point is far greater than that which is exchanged between New York and Liverpool; when the transfer of commodities to and from this great father of waters, which was well within the capacity of this old gray horse to handle, has grown within the lifetime of the hero of this sketch to dimensions more than three times as great as the commerce which annually passes through the Suez canal. The discovery of the mineral deposits, however, brought such a flood of prospectors and miners that McKnight and his old horse had more than they could do to handle the material. So McKnight with J. T. Whiting, built a strap railway about a mile long across the portage in 1850. He placed a number of cars upon it and drew them with horses and this was the first railway of any kind to be built in the upper peninsula of Michigan. What with the transit of iron and copper down, with machinery and provisions of all kinds up, McKnight did a flourishing business and the Sault became a distributing center. The thought of a canal at the Sault was gall and wormwood to McKnight. He fought the project bitterly, opposing it at every step, declaring that it was unnecessary and that it would kill the Sault. This last argument found a responsive chord in many a breast, for a number of men gained their livelihood in the rehandling of freight at that point. The project of the canal was not advanced by any of the Saulteurs.

The strap railroad from Marquette to the mines was not ready for use during the winter of 1854 and the ore was carried down in sleighs as usual. The projectors called it the Iron Mountain Railway Co. Heman P. Ely was busily engaged also in the construction of his railroad, which he called the Iron Mountain Railroad Co.—a distinction in terms sufficient to confuse anyone who endeavors to trace the history of the peninsula from the very manuscript of those who made it. However, they were distinct corporations, as was quite apparent at the time, for Ely served an endless number of injunctions upon the contractors and workmen who were engaged

upon the Iron Mountain Railway. There were innumerable disputes regarding the rights of way and things finally got to such a pitch that Charles T. Harvey finally suggested to the contending interests that they permit him to act as arbitrator. Both sides recognized his eminent capacity for work of this kind and agreed to abide by his decision. Harvey thereupon caused maps to be drawn defining where each roadbed should be laid and determining how nearly they should approach each other at important points. He did his work well and his voluntary services were appreciated by both sides. Nerves were at the highest tension, for work upon the canal at Sault Ste. Marie was progressing rapidly, and everyone wanted the line of communication to the mines to be finished first in order to care for the heavy shipments that were bound to follow.



CAPT. J. H. ANDREWS

But, alas, notwithstanding the heroic efforts put forth, the canal was opened before the strap railroad was finished. It was an era of the wildest excitement in the peninsula. Cholera had broken out once and hundreds had died in building the canal, but now the great work was done. Water was let into the canal on April 19, 1855, and on June 18, it was opened to commerce with John Burt as its first superintendent. The steamer Illinois was the first vessel to pass up and the Baltimore the first to pass down on the day of the opening. On the following day the propeller Gen. Taylor passed through up bound and on the 20th the passenger steamer North Star entered up bound. The North Star was the first vessel to reach Marquette through the canal, having made the trip from the Sault in a little less than eight hours. The schooner Freeman, Capt. J. H. Andrews, master, passed up July 3 and was the first sailing vessel to make the complete trip from the lower lakes into Lake Superior.

When the trim hull of the North Star shot into Iron Bay the people of Marquette nearly went wild. She signified so much to them. She had

come as a deliverer. She had burst the bars that had so long caged the peninsula and was the first to bring the message of emancipation. Her name, too, North Star, was so appropriate for this great northern sea. The people on seeing her gave vent to a mighty outburst of patriotism. Dr. Morgan L. Hewitt was deeply stirred, as a letter written by him upon the occasion shows. He ran up the American flag upon the city flag-staff and every man who had a gun fired it off.

Heman E. Ely suggested that appropriate exercises be held on the Fourth of July to celebrate the opening of the canal which meant so much to the iron country. Mr. Ely, who was a patriotic and generous man, bore the expense of the entire celebration, providing music and fireworks and refreshments for the entire village. Speeches were made by Dr. J. J. St. Clair, agent for the Cleveland Iron Mining Co.; Mr. George King, of the Jackson Iron Co., and Mr. Ely, who was the principal orator of the day. Peter White followed the speakers by merely reading the Declaration of Independence. Ely's address was praised by everyone except William O'Brien, an Irishman, who had helped himself quite liberally to punch. He was heard describing the occasion in the following language:

"There was Docther Sinclair; he was the prisident of the day and made a tolerably dacent spaach, good anuff for any other day but Ford-a-July! Thin there was Misther King, the Jackson Company clark; he made a little talk, good anuff for the childers, but no account for a Ford-a-July spaach. And then Mr. Ealy he got up; he talked about rivers and harbors and railroads an tiligrafs, shtame boats, canals and sich like. Oh, begobs! it was tadious but I would have called it a fine spaach for any other day but a Ford-a-July, but for that day it was no spaach at all. But I will tell yez who did make a good spaach—it was Mr. Pate White. He got up and he talked like a book. He talked about liberty and aquality and the rights of the min and he was down on King George and the parleymint and sor, he made the bist Ford-a-July spaach of them all."

The Honorable Peter White

PART II

Sault Ste. Marie Before the Canal

Lake Superior Shipping Before the Canal

Construction of the Canal

CHAPTER XI.

SAULT STE. MARIE BEFORE THE CANAL.

SINCE no single act of man has conferred so wide a blessing, industrially considered, on the American people as the construction of the first canal at Sault Ste. Marie, it might be well to set down in detail the history of the site of this splendid achievement. As the story unfolds it will be shown in what manner the locks of Sault Ste. Marie have altered the face of the country; but for the present let us deal with Sault Ste. Marie itself. There are two pictures—Sault Ste. Marie before and after the canal and each differs widely in aspect. To us Sault Ste. Marie is one of the most romantic places in the world.

There has always been an Indian settlement at the Sault. When Nicollet went to Sault Ste. Marie in 1634 he found a permanent Indian town there. Elsewhere the Indians are nomadic; when they have hunted a region out they take down their tepees and migrate, but at Sault Ste. Marie they remained and lived in peace. The reason was that the rapids were always open and accordingly they could fish all the year around. Fish constituted their principal food during the winter season. In 1641 Charles Raymbault and Isaac Jogues held a brief mission at the rapids and called it Saint Mary. In 1661 Radisson and Grosseilliers camped there for a little while; but the permanent settlement is to be dated from the establishment of the mission by Father James Marquette in 1668.*

* Father James Marquette was born in Laon, Picardy, France, in 1637. He began his scholastic career at an early age, ultimately joining the Jesuit order and being ordained a priest. In 1666 he voluntarily gave up the tranquillity of the cloister for the arduous work of the missionary, and joined the ranks of the pioneers of New France, arriving in Quebec, Sept. 20, 1666. In April, 1668, he was dispatched in company with a brother of the order to assist in the Northwest. He established a new mission station at Sault Ste. Marie, near the foot of the rapids, and in 1669 set out to take charge of the La Pointe mission, near the present site of Ashland, reaching it after a perilous journey in September. It was here he conceived the daring idea of attempting the discovery of a great river in the West, of the existence of which he had learned from the Indians. His plan was to go there in the fall of 1670, but was frustrated by a war which broke out between the Hurons and Ottawas on one side and the Dakotas on the other. The Ottawas finally fled, leaving Marquette with the Hurons. The Hurons resolved to leave La Pointe for the rich fisheries of Mackinac, and there, in 1671, Father Marquette began the mission of St. Ignace. To Marquette's great joy he was then appointed by the Jesuit superior to accompany Joliet, the royal hydrographer of New France, on a tour to extend French

Sault Ste. Marie is the oldest town in Michigan, antedating Detroit by more than thirty years. In 1750 the French established a military post at Sault Ste. Marie for the purpose of preventing the English, as far as possible, from obtaining a foothold on Lake Superior. When Alexander Henry visited Sault Ste. Marie in 1762 he found it to consist of a fort and four houses. The fort was even then in a state of abandonment, the French having evacuated it in 1760 after the surrender of Canada to Britain. The village was French and Indian until the Jay treaty and the session of 1796.

Sault Ste. Marie has had its captains of industry and of romance. Its great captain of romance was John Johnston. He was an Irishman of noble birth. He was born in Antrim county, Ireland, near the village of Colraine, Aug. 25, 1762. His father was a civil engineer who planned and executed the waterworks at Belfast. His mother was the sister of Mary Saurin, wife of Bishop Saurin of Dromore and also a sister of the attorney general for Ireland. Johnston emigrated to America in 1792 and was received by Lord

territory southward. They left St. Ignace May 17, 1673, passing into Lake Michigan and following its north shore, going down Green Bay to the Fox river. The two travelers ascended the Fox river to its head, crossed by a short portage to the Wisconsin river, and following that stream, reached the Mississippi June 17, 1673. They continued their journey until they reached the mouth of the Arkansas. Returning, Marquette ascended the Illinois river and continued his journey to Green Bay by way of the lake, and reached there late in September. That winter and the following summer Marquette spent at Green Bay. He embarked again March 30, with two attendants, and reached the Illinois on April 8. He observed, however, that his strength was declining, and resolved to return to St. Ignace. He and his two Indian followers coasted along the eastern shore of Lake Michigan until they reached the mouth of the river that afterwards bore his name. Marquette realized that he was dying, and pointing to a rising piece of ground, gave directions for his interment there. On Saturday, May 18, 1675, he died and was buried by the two Indians where he directed. Two years later the body was disinterred by the Ottawa Indians and accompanied by a funeral of nearly 30 canoes, was taken to St. Ignace. Under the supervision of Father Nouvel the body was deposited in a little vault in the middle of the church at St. Ignace, on June 9, 1677.

The second volume of La Hontan's Travels contains a description and plan of the mission at St. Ignace, as it was in 1688, 11 years after Marquette's burial. It was through the aid of this plan that Marquette's remains were discovered 200 years after they were buried and after all trace of the mission had been totally obliterated. The plan plainly indicated that the old mission house must have stood in no place else than at Point St. Ignace. A large cross was known by the French and Indians to have stood on or near the beach of East Moran Bay, and the tradition is that the cross marked the site of the old church that once stood there. On May 4, 1877, nearly 200 years after Marquette's burial, Peter Grondin, occupied in clearing ground on claim 19 for Patrick Murray Jr., discovered a rude foundation 36 x 40 feet, the smaller side facing the lake. This old foundation consisted of flat limestones covered with sand or soil. Immediately adjoining to the west were plain traces of a large building divided into three compartments, and having three fireplaces. The whole plan looked like the mission of the Jesuits, with the church adjoining, the house, sacristy and workshop. The Rev. Father Jacker became deeply interested in it and caused excavations to be made. Pieces of glassware, broken statuary and other indications of a church were found, and near the western end of the cellar, two feet below the ordinary cellar, what was supposed to be a box containing Marquette's remains was found. It contained a number of small pieces of bones from different parts of the human frame, such as the skull, hands and feet, limbs and spine.

Dorchester, Governor General of Canada, to whom he presented such fine letters of recommendation that the governor begged him to remain in Montreal until an opening for him should occur in the British service. Johnston, however, soon joined a trading party bound for Lake Superior. He spent some months at Sault Ste. Marie and then followed Lake Superior as far west as La Pointe opposite the Twelve Apostle islands, where he established a trading post.

It was while trading for furs with Waub-O-jeeg,* chief of the Chippewas, that he met the chief's beautiful daughter O-shaw-gus-co-day-way-qua, which translated means Daughter of the Green Mountain. This forest-bred girl seems indeed to have been of singular beauty of person and nobility of character. Johnston with all the impetuosity of his race fell madly in love with her and immediately asked the chief to give her to him in marriage. Waub-O-jeeg refused.

"Your customs are not our customs," he said. "Your ways are not our ways. The white man desires our women only so long as they please the eye."

Johnston protested so eloquently and so sincerely that Waub-O-jeeg finally counseled him to return to Montreal and to remain some months

*Waub-O-jeeg was the second son of the famous Mongazida. Once when the latter went out to his fall hunt, on the grounds near Sioux territory, taking all his relatives with him (upwards of twenty in number), they were attacked by the Sioux at early dawn. The first volley had gone through the lodges; before the second could be fired Mongazida rushed out and proclaiming his own name with a loud voice demanded if Wabash, his mother's son, was among the assailants. There was a pause, and then a tall figure in his war dress, and a profusion of feathers on his head, stepped forward and gave his hand to his half brother. They repaired to the lodge in peace together, but the moment the Sioux chief stooped to enter, Waub-O-jeeg, then a boy eight years old, who had planted himself at the entrance to defend it, struck him a blow on the forehead with his little war club. Wabash, enchanted, took him up in his arms and prophesied that he would become a great war chief and an implacable enemy of the Sioux. Subsequently this prophesy was accomplished and Waub-O-jeeg commanded the nation in all the war parties against the Sioux and Ottagamies. He was generally victorious and so entirely defeated the Ottagamies that they never afterwards ventured to oppose him but retired down the Wisconsin river where they settled. But Waub-O-jeeg was something more and better than a successful warrior; he was remarkable for his eloquence and composed a number of war songs which were sung through the Chippewa villages and some of which his daughter often repeated. He was no less skillful in hunting than in war. His hunting grounds extended to the river Broule at Fond du Lac; and he killed anyone who dared intrude on his district. The skins he took annually were worth $350, a sum amply sufficient to make him rich in clothing, arms, powder, vermillion and trinkets. Like Tecumseh he would not marry lest it should turn his attention from war, but at the age of thirty he married a widow by whom he had two sons. Becoming tired of his elderly helpmate he took a young wife, a beautiful girl of fourteen, by whom he had six children; of these Mrs. Johnston was the eldest. She described her father as domestic and affectionate. "There was always plenty of bear's meat and deer's flesh in the lodge," she said. He had a splendid lodge 60 feet in length which he was fond of ornamenting. In the center there was a strong post, which rose several feet above the roof, and on the top there was the carved figure of an owl which veered with the wind. This owl seems to have answered the purpose of a flag. It was the insignia of his power and his presence. When absent on his long winter hunts the lodge was shut up and the owl taken down.

there among his own people. He reasoned with him that he would find a girl among the French and English there more to his liking, but Johnston protested vehemently that he would not. Waub-O-jeeg, however, remained obdurate.

"If," said he, finally, "the women of the pale faces do not put my child out of your mind, return in the spring and we will talk further."

Johnston spent a disconsolate winter in Montreal but returned in the spring of 1793 to claim his Indian bride. Waub-O-jeeg gave her to him upon the injunction that she was to remain his wife forever.



JOHNSTON'S HOUSE AS IT APPEARS TODAY—A VIEW FROM THE STREET FRONT.

Previous to her marriage, according to the Indian custom, she fasted for a guardian spirit. To perform this ceremony she went away to the summit of an eminence and built herself a little lodge of cedar boughs, painted herself black and began her fast in solitude. She fasted for ten days during which time her grandmother brought her water at intervals. At the end of the tenth day she returned to her father's lodge carrying green

cedar boughs which she threw upon the ground stepping upon them as she went. When she entered the lodge she threw some more down upon the place where she usually sat and then took her seat next to her mother. During the ten succeeding days she was not permitted to eat any meat nor anything but a little corn boiled with a bitter herb. For ten days more she ate meat smoked in a particular manner and then partook of the usual food of the family.

But notwithstanding the fact that all the presentments which she could conjure up during her ordeal were favorable, she seems to have felt nothing



JOHNSTON'S HOUSE AS IT APPEARS TODAY—A VIEW FROM THE RIVER FRONT.

throughout the whole negotiations for her hand but reluctance, aversion and terror. On being carried with the usual ceremonies to her husband's lodge she fled into a dark corner, rolled herself up in a blanket and would not be comforted or even looked upon. It is to the honor of Johnston that he took no advantage of their mutual position but that during ten days he treated her with the utmost tenderness and respect and sought by every

gentle means to overcome her fear and to gain her affection. One traveler referring to this incident says that it was touching to see how tenderly and gratefully this was remembered by his wife after a lapse of thirty-six years. On the tenth day, however, she ran away from him in a paroxysm of terror, and after fasting in the woods for four days, reached her grandmother's wigwam. Meantime her father, Waub-O-jeeg,* who was far off in his hunting camp, learned that his daughter had not conducted herself according to his advice, and he returned in haste, a two days' journey, to see after her. He whipped her with a stick and threatened to cut off both her ears. He then took her back to her husband with a present of furs and Indian corn, and with many apologies and protestations of good faith on his part.

Johnston succeeded at last in taming this shy wild fawn and took her to his home at Sault Ste. Marie. When she had been there some time she was seized with a longing to revisit her people. Her husband had lately purchased a small schooner to trade upon the lakes. He fitted the vessel out and sent her with a retinue of his clerks and retainers and in such state as became the wife of "the great Englishman," to her home at La Pointe, loaded with magnificent presents for all her family. Apparently from motives of delicacy and that there might be no constraint upon her feelings and movements he did not accompany her himself. A few months residence amid comparative splendor and luxury with a man who treated her with respect and tenderness enabled her to contrast her former with her present home. She soon returned to her husband voluntarily and lived most happily with him until his death.

Johnston built a large house near the site of the old cemetery on the river bank and just below where old Fort Brady was built later on. The house was elegant for its time and has become historic. It was a long, low, well built log house in a beautiful old-fashioned garden. On the great sideboard in the dining room were arranged many pieces of solid silverware brought from Ireland and always in the same place.

Johnston's sons and daughters were sent away to school but were trained at home to the strict conventionalities of the life in which he had been reared. In 1807 Johnston visited Ireland, taking with him his daughter Jane in whose society he seems to have taken especial delight. He traveled throughout Europe with his daughter completing her education. Several propositions were made to him while abroad to remain. The Duchess of Devonshire, it is related, desired to adopt Jane. Johnston's own friends and relatives joined to keep him among them, but to all influences and persuasion to remain he turned a deaf ear.

When Johnston returned to Sault Ste. Marie from a long stay in Europe, Jane became the wife of Henry R. Schoolcraft, the historian and writer, upon whose Ojibway legends which he was at great pains to collect, Longfellow founded his beautiful poem of Hiawatha.

The great business of the peninsula in those days was the taking of furs. In 1797 the North West Company, which was at first a rival of the Hudson Bay Fur Co. but later consolidated with it, constructed on the Canadian side a sluiceway for the passage of loaded bateaux around the falls of St. Mary by a gradual incline to a lift lock 38 ft. long and 8 ft. 9 in. wide, with a lift of 9 ft. which was about half the total fall at the rapids. A tow path was made along the shore for oxen to pull the bateaux and



THE OLD HUDSON BAY CO.'S LOCK, AS RESTORED BY MR. FRANCIS H. CLERGUE.

canoes through the remainder of the rapids.* This old lock was demolished in 1814 by United States troops from Mackinac Island under command of Major Holmes, when every building in the vicinity was burned. The manner of its destruction was this:

*The life of this old lock, which was built of dressed timber, was about sixteen years, and it had been completely forgotten that such a channel had ever existed. In 1889 Judge Joseph H. Steere, of Sault Ste. Marie, a man whose recreation has consisted largely of looking up the history of former conditions in the Lake Superior country, ran across the following description of the old canal and lock, written by Capt. Bruyeres, of the English army, under date of Sept. 10, 1802:

"The landing is in a bay immediately at the bottom of the fall on the nearest channel to the land of the north shore. A good wharf for boats is built at the landing on which a store house 60 ft. long, 30 ft. wide, is erected. The wharf is planked and pathways made and

Lieutenant Colonel Croghan of the United States Army was sent to capture the British position at Mackinac then commanded by Colonel McDowell. McDowell learned of their coming and sought the aid of Johnston and his friends at the Sault. Johnston provisioned and equipped a force of 100 Indians and set out to the relief of Mackinac. Major Holmes was sent to intercept Johnston and his Indian band but they evaded him by taking the unknown route west of Sugar island (now Hay Lake channel) and then through Neebish. When Holmes reached Sault Ste. Marie he was so enraged that those whom he had set out to intercept had evaded his vigilance that he completely destroyed the village of Sault Ste. Marie. He then returned to Mackinac to aid in the assault under Colonel Croghan and was among the number killed in the affair of August 4, 1814. His sword was stolen by the Indians and presented to George Johnston, the second son of John Johnston.

At the peace of 1815 Johnston appealed first to the British and then to the United States government to compensate him for his losses in the destruction of Sault Ste. Marie, but met with no success. The evidence showed that Johnston was an officer in the British service during the war of 1812 and it was largely for this reason that the Commissioner of the General Land Office at Washington refused to confirm his claim to a tract of land at Sault Ste. Marie, which had been improved and a number of buildings, including the Johnston residence, built thereon.

The American occupation of Sault Ste. Marie may be said to have begun in 1820, when General Cass went up in bateaux with a force of sixty-six men to establish a trading post. They found the British flag still flying and Cass pulled it down with his own hands and obtained the con-

planked all around it. Close to the store a lock is constructed for boats and canoes, being 38 ft. long, 8 ft. 9 in. wide. The lower gate lets down by a windlass; the upper has two folding gates with a sluice. The water rises 9 ft. in the lock. A leading trough of timber, framed and planked, 300 ft. in length, 8 ft. 9 in. wide, 8 ft. high, supported and leveled on beams of cedar through the swamp is constructed to conduct the water from the canal to the lock. A road raised and planked 12 ft. wide for cattle extends the whole length of the trough. The canal begins at the head of it, which is a channel cleared of rocks and the projecting points excavated to admit the passage of canoes and boats. This canal is about 2,580 ft. in length, with a raised bridge or pathway of round logs at the side of it 12 ft. wide for oxen to track the boats. About 170 ft. from the upper part of the canal a store house is built, 36 ft. long, 23 ft. wide. An excellent saw mill for two saws is constructed and placed in a line with the lock, parallel to it."

Judge Steere was greatly interested in this description and calling to his aid his fellow townsman, Joseph Cozzens, provincial land surveyor of Sault Ste. Marie, Ont., and E. S. Wheeler, general superintendent of St. Mary's Falls canal, they jointly made a search and were rewarded by finding the remains of this, the earliest of the artificial waterways of the great lakes. When Francis H. Clergue established the group of industries at Sault Ste. Marie that bear his name, he caused this old lock to be restored in stone, affording a striking object lesson of the commercial growth of a century.

cession from the Indians to build a fort. At that time there were forty lodges of Chippewa Indians and two hundred inhabitants at Sault Ste. Marie. This treaty of cession, however, would probably not have been obtained had not Mrs. Johnston taken an active interest in it. She perceived that the Indians were suspicious of the newcomers and were even plotting an attack upon the general and his party at night. She acted with the utmost celerity and called the leading chiefs to her for a secret conference at a neighboring rendezvous, where with much directness she enlightened them as to the object of the visit and the ultimate futility of resistance. So great was the respect in which they held her judgment that the chiefs later counseled the gathering braves to disperse and the treaty was signed forthwith. General Cass was fully sensible of Mrs. Johnston's offices and always maintained that the United States Government owed her a debt of gratitude while he himself probably owed her his life.*

* All of the early travelers to the Lake Superior country speak of the charming hospitality of the Johnston family, but probably the most interesting account of all is that written by Col. Thomas L. McKenney, of the Indian department at Washington, who was a joint commissioner with General Cass in negotiating the treaty of Fond du Lac in 1826.

This trip to-day would be regarded as an extremely hazardous undertaking, for upon this occasion Cass and McKenney traveled the entire distance between Sault Ste. Marie and Fond du Lac in canoes. While at the Sault General Cass and Colonel McKenney were entertained at the Johnston homestead, and in a letter to his wife Colonel McKenney described the home as it appeared at that time. He said:

"A personal acquaintance with Mr. Johnston and his family I esteem to be among the most interesting circumstances of my, so far, agreeable travels. Mr. Johnston is in his sixty-fourth year; and Mrs. Johnston in her fifty-fourth. He is feeble and decrepit. A free liver in earlier life he now feels the burden of sixty-four winters to be great, and in addition to the infirm state of his health, he has the dropsy in one foot and ankle, which at times occasions him great pain, and often deprives him altogether of ability to walk, which he never does without limping, and then by the aid of a staff. His education and intercourse with polished society, in early life, indeed up to his thirtieth year, has given him many very striking advantages over the inhabitants of these distant regions, and indeed fit him to shine anywhere; whilst the genuine Irish hospitality of his heart, has made his house a place of most agreeable resort to travelers. In his person Mr. Johnston is neat; in manners, affable and polite; in conversation, intelligent. His language is always that of thought, and often strikingly graphic. He is always cheerful—even when he is afflicted most. There is something charming in such an autumn. It gives place to winter so gradually as to make its retirement imperceptible. In height Mr. Johnston is about 5 ft. 10 in.—and before he was bent by age and infirmity his figure was doubtless fine. His hair is of the true Scotch yellow, intermixed with gray. His forehead, though retreating is high and full, especially about the brows. His eyes are dark, small and penetrating, and full of intelligent expression. His nose and mouth (except that the loss of teeth has changed the character of the latter some, though his lips have yet great firmness) are well formed, and judging from what is left, and from a portrait which hangs over the fireplace in the drawing room of his residence he must have been very handsome when young.

"Mrs. Johnston is a genuine Chippewa without the smallest admixture of white blood. She is tall and large, but uncommonly active and cheerful. She dresses nearly in the costume of her nation—a blue petticoat of cloth, a short gown of calico, with leggins worked with beads, and moccasins. Her hair is black. She plaits and fastens it up behind with a comb. Her eyes are black and expressive, and pretty well marked, according to phrenologists, with the development of language. She has fine teeth; indeed her face, taken altogether with her high cheek bones and compressed forehead and jutting brows, denotes a vigorous intellect and great firmness of character, and needs only to be seen to satisfy even a tyro like myself in physiognomy that she

At the treaty of Fond du Lac, concluded August 7, 1827, one section of land was given to Mrs. Johnston and also one section to each of her children and grandchildren. Part of this land was selected from the highlands of Sugar island, a few miles below the Sault.

required only the advantages of education and society to have placed her on a level with the most distinguished of her sex. As it is she is a prodigy. As a wife she is devoted to her husband, as a mother tender and affectionate, as a friend faithful. She manages her domestic affairs in a way that might afford lessons to the better instructed. They are rarely exceeded anywhere, whilst she vies with her generous husband in hospitality to strangers. She understands but will not speak English. As to influence there is no chief in the Chippewa nation who exercises it when it is necessary for her to do so, with equal success. This has been often tested but especially at the treaty of cession at this place in 1820. Governor Cass, the commissioner, was made fully sensible of her power then, for when every evidence was given out that the pending negotiation would issue, not only by a resistance on the part of the Indians to the propositions of the commissioner, but in a serious rupture, she, at a critical moment sent for some of the principal chiefs, directing that they should, to avoid the observation of the great body of Indians, make a circuit and meet her in an avenue at the back of her residence; and there by a luminous exposition of their own weakness and the power of the United States, and by assurances of the friendly disposition of the government towards them, and of their own mistaken views of the entire object of the commissioner, produced a change which resulted, on that same evening in the conclusion of a treaty. I have heard Governor Cass say that he felt himself then, and does yet, under the greatest obligations to Mrs. Johnston for her co-operation at that critical moment; and that the United States are debtor to her, not only on account of that act, but on many others. She has never been known in a single instance to counsel her people but in accordance with her conceptions of what was best for them, and never in opposition to the views of the government. So much for the father and mother.

"I will now make you acquainted with some of the children. Of Mrs. Schoolcraft (Jane) you have doubtless heard. She is the wife of Henry R. Schoolcraft, author of travels and other works of great merit, and Indian agent at this place. She is a little taller and thinner but in other respects as to figure resembles her sister, Mrs. McMurray (Charlotte) and has her face precisely. Her voice is feeble and tremulous. Her utterance is slow and distinct. There is something silvery in it. Mildness of expression, softness and delicacy of manners as well as of voice, characterize her. She dresses with great taste and in all respects in the costume of our fashionables, but wears leggins of black silk, drawn and ruffled around the ankles. You would never judge, either from her complexion or language or from any other circumstance that her mother was a Chippewa, except that her moderately high cheek bones, her dark and fine eye and breadth of jaw slightly indicate it; and you would never believe it, except on her own confession or upon some equally responsible testimony, were you to hear her converse, or to see her beautiful, and some of them highly finished compositions, in both prose and poetry. You would not believe, not because such attainments might not be universal, but because, from lack of the means necessary for their accomplishment, such cases are so rare. Mrs. Schoolcraft is indebted mainly to her father, who is dotingly fond of her, for her handsome and polished acquirements. She accompanied him some years ago, and before her marriage, to Europe; and has been the companion of his solitude in all that related to mind, for he seems to have educated her for the sake of enjoying its exercise. The old gentleman, when in Edinburgh, had several propositions made to him to remain. The Duchess of Devonshire, I think it was, would have adopted Mrs. Schoolcraft; and several propositions besides these were made to settle upon her wealth and its distinctions, and his own friends and connections joined to keep him among them by offers of great magnitude. But he told them he had married the daughter of a king in America and although he appreciated, and was very grateful for their offers to himself and his Jane, he must decline them and return to his wife, who through such a variety of fortune had been faithful and devoted to him. Mrs. Schoolcraft is, I should judge, about twenty-two years of age. She would be an ornament to any society; and with better health, for at present she enjoys this great blessing but partly, would take first rank among the best improved whether in acquirements, in taste or in graces.

"Charlotte comes next in order, being younger than Mrs. Schoolcraft by some two or three years. Here again, without the advantages of education to the same extent, or equal

Following the death of her husband, which occurred on Sept. 22, 1828, Mrs. Johnston turned her attention to the manufacture of maple sugar on her estate and each year marketed several tons. In the fall she would go with her people in canoes to the entrance of Lake Superior to fish in the bays and creeks for a fortnight, and return with a load of fish cured for winter consumption. In her youth she hunted and was accounted the surest eye and fleetest foot among the women of her tribe. Her talents, energy, activity and strength of mind, and her skill in all the domestic avocations of Indian women, maintained comfort and plenty within her dwelling in spite of the loss of her husband. Her descent from the blood of ancient chiefs rendered her an object of great veneration among the Indians, who in all their miseries, maladies and difficulties appealed to her for aid and counsel. She died at Sault Ste. Marie in 1843.*

opportunities for improvement, but with no deficiencies in these matters you have a beautiful specimen of female mixed blood. This interesting young lady has but little of her mother's complexion. She possesses charms which are only now and then seen in our more populous and polished circles. These are in the form and expression of a beautiful face where the best and most amiable and cheerful of tempers—the loveliest and most captivating ornament of her sex —sits always with the sweetness of spring, and from whence the graces seem never to have departed even for a moment—and all this has imparted to it an additional interest in her own total unconsciousness of their presence and of her powers to please. Her eyes are black but soft in their expression and between her lips, which I have never seen otherwise than half parted with a smile, is a beautiful set of ivory. Her style of dress is neat and in all respects such as we see in our cities. She would be said to be rather tall. Yet her person is good. She sings most sweetly but seems unconscious of it. My opinion of Charlotte is that she would be a belle in Washington, were she there, as I find she is here. No one speaks of her but in terms of admiration of her amiable disposition and in praise of her beauty; and according to my observation and taste she merits richly all the praise that is bestowed.

"Eliza, who is older than either Mrs. Schoolcraft or Charlotte, has never yet consented to speak English. I have not, therefore, been able to judge of her improvement. She appears to be a fine young lady and of excellent disposition. Her complexion is more like her mother's than the rest. The youngest, Anna Maria, is now about twelve years old and is growing up, I think, in most respects like Charlotte. She certainly bids fair to be handsome. When I look upon this group of interesting children, and reflect that their mother is a native of our wilds, I wish for the sake of the Indians that every representative of the people, and all who might have influence to bring about a complete system for the preservation and improvement of at least the rising generation, could see them too."

* There were eight children in the Johnston family, all born at the Sault: Louis, born 1794, died at Malden, 1825; George, born 1796, died at the Sault, Jan. 6, 1861; Jane, born 1800; Eliza, born 1802, died at the Sault, 1888; Charlotte, born 1806, died at the Sault, 1878; William, born 1811, died at Mackinac, 1866; Anna Maria, born 1814; died at Pontiac, 1856; John McDougall, born 1816, died at the Sault, Feb. 14, 1895. Of the children several were prominent in making history three quarters of a century ago. Louis served on board the Queen when she was captured by one of the United States gunboats under Commodore Perry on Lake Erie in 1813. George served in the British army and was in the engagement at Mackinac Island, August 4, 1814. William was an Indian interpreter at various times for the United States government. John McDougall was for a number of years Indian interpreter to his brother-in-law, Henry R. Schoolcraft, and afterwards acted in that capacity for the United States government. Jane was married in 1823 to Henry R. Schoolcraft, the historian and writer. Eliza never married. Charlotte became the wife of an Episcopal clergyman named William McMurray, a missionary at the Sault at the time but subsequently archdeacon of Niagara. Anna Maria became the wife of James L. Schoolcraft, who was mysteriously murdered at the Sault in 1846 as narrated elsewhere in this book.

It was on Oct. 9, 1828, that the Rev. Abel Bingham arrived at Sault Ste. Marie to establish a mission. After holding services in the morning for the white population it was his custom to hold a service on Sunday afternoon for the Indians. Miss Charlotte Johnston was his first interpreter. For a time he occupied the same building where Lewis Cass made the government treaty with the Indians and where his daughter Angelina was born. He built, however, a mission house on government property and moved into it on Nov. 16.

His first acquaintance among the Indians was with Shegud, one of the minor chiefs, who afterwards became a deacon of his church. He extended his mission work among the Indians as far west as Marquette, in summer traveling in his canoe and in winter on snow shoes with his dog train. The hardships endured during these journeys were great. Many times in midwinter he was obliged to take off his moccasins and wade barefoot through streams not entirely frozen over, he and his interpreter carrying the dog train.

In 1837 it is recorded that there were three merchants at the Sault and that one Indian was taxed. Truly this Indian must have felt civilization not to be an unmixed blessing. This was the year following Michigan's admission as a state and one of its first acts inspired by Governor Mason was to authorize a survey for a canal at Sault Ste. Marie. The American Fur Co. at the time maintained quite an extensive store for the purpose of supplying its agencies scattered throughout the Lake Superior region with dry goods, hardware and groceries. Meanwhile Dr. Houghton had been appointed state geologist and his reports of the discovery of copper in the peninsula, cautious as they were, had inflamed the country and prospectors were beginning to arrive in the Lake Superior region in considerable numbers. The prospectors found a curiously interesting little colony at the Sault, consisting of about two hundred persons of all nations, colors, grades and languages, exclusive of the Indian lodges. The Indian population found its main aim in life to consist of hunting and cutting wood to supply the garrison and traders with fuel. In the spring they made sugar and fished, using birch bark canoes, scoop nets and spears in the latter employment; in the summer they made the hay for the household use in making beds as well as feeding the little stock that was then to be found about the Sault; in October and November they laid in the winter supply of fish which they cured by drying and smoking, and sometimes by frost. During the winter white fish, trout and herring were caught by the use of spears through the ice, for as a rule the Indians were improvident and lived from hand to mouth.

The Indians divided the years, as intimated, into four seasons; in the winter hunting and chopping; in the spring sugar-making and fishing; in the summer haying, and in the fall again fishing. Each Indian secured from the traders an outfit for himself and his family at the beginning of each season. It must be admitted that the prices which the traders charged the Indians were exorbitant, as for instance, $1 a yard for common calico and the same price for coarse, flimsy unbleached cotton; $2 to $3 a pound for tea and tobacco, and from $50 to $75 for a pair of Mackinac blankets. If the trader ever had any conscience on this score it was quieted by the invariable habit of the Indian in maintaining that he had wiped out whatever indebtedness stood against him when he turned over the result of his season's efforts to the trader, and he would never thereafter acknowledge any indebtedness whatever for his outfit.

The influx of miners made it necessary to establish two hotels at Sault Ste. Marie in 1845. One was the Van Anden House, kept by Mr. Joshua Van Anden, and the other was the St. Mary's Hotel opened by Mr. Moses W. Stevens. Sault Ste. Marie began to assume an air of importance. It was the distributing center for the new copper country and a growing business was being done in portage. Up to 1845 the line of communication to the Sault consisted principally of the steamer Detroit, which made one trip a week from Sault Ste. Marie to Detroit. In the spring of 1846, however, one or two additional vessels were put on. Passengers were arriving, however, in greater numbers than could well be accommodated in the small hotels, and they accordingly had to go into camp, which was usually done on a pleasantly-situated point near the foot of the rapids, where amusement could be had in watching the Indians and half breeds in their birch bark canoes catching the delicious white fish.

The social amusements of the little settlement were very limited and usually consisted in the winter season of dances given at the homes of the half breeds. These balls were invariably inaugurated through the giving of a small dance at the house of one of the half breeds having one or more daughters. In the course of the evening one of the daughters would quietly dance up to one of the white guests and unknown to him pin a ribbon upon his coat collar, indicating that he had been selected to be the king and giver of the next ball and that she would gladly be his partner and queen for the occasion. The music was furnished by an old French fiddler, who from the frequency with which his fiddle string broke, was known throughout the village by the cognomen of "Excuse a la cord."

The one character at the Sault who was the "bogie man" to the chil-

dren and a source of worry to nearly everyone, was John Tanner, commonly known as "old Tanner." He lived in a neat, comfortable, white-painted house under a large spreading elm tree a little below the Indian agency on the banks of the river. He had been stolen by Indians while a child and had been brought up by them. He lived their life and married an Indian woman. Upon her death he was married to a white woman living at the Sault. Tanner was subject to fits of violent temper so intense and raging as to amount almost to insanity, so that his white wife eventually lived in constant fear of her life. This had been noticed by the Saulteurs for some



THE ELMS UNDER WHICH TANNER'S HOUSE STOOD AS THEY APPEARED IN 1905.

time, so that during a temporary absence of Tanner from home she was aided by Rev. Mr. Bingham and the Schoolcrafts in escaping and returning to her old home in Detroit. Tanner was in a fearful rage about it and went to Detroit and tried to persuade his wife to return, but without success. From that time on Tanner was more or less insane. He nurtured his hatred in characteristic Indian fashion and threatened to kill everyone who

had been concerned in spiriting his wife away. He lived alone in his cottage, since none of his children by his first Indian wife could live with him on account of his violent temper. He was a man of striking personal appearance, with a fine face and long, flowing white hair, parted in the middle and put back at the ears. His countenance, however, became fearful when he was enraged, and mischievous children could invariably be quieted by threatening that "old Tanner" would get them if they did not behave.

On the night of July 4th, 1846, Tanner's house was burned down and Tanner himself was never seen again. On the Monday afternoon following, James Schoolcraft sauntered in slippers and dressing gown from the old Johnston homestead where he lived, for a walk through his own grounds. Directly south of the homestead in the near woods was a clearing where Mr. Schoolcraft raised vegetables and which he called the farm. While in the clearing he was shot through the heart by some one hidden behind a little clump of bushes nearby, the passage of the bullet being distinctly cut through the foliage. Whether he saw his assailant or not will never be known. He was instantly killed. The shot was heard and the news of the murder immediately communicated to Major Kingsbury at the fort, who immediately evinced the utmost agitation. Rev. Mr. Bingham was with Major Kingsbury at that very moment talking over the advisability of imprisoning Tanner for threatening the lives of several white citizens. In the crowd which soon collected about the prostrate form of Schoolcraft was a boy fifteen years old named Peter White—a young roustabout looking for work. The wadding of the gun was found close by on the ground and proved to be a leaf from a hymn book used at the Baptist mission chapel services where Tanner had formerly been employed as interpreter at the Sunday afternoon services, which were conducted in the Indian language. The excitement precipitated by this murder was intense. Men and boys armed with guns started out to hunt Tanner with the intention of shooting him at sight, but it was a noticeable fact and much laughed at later that no one ventured very deeply into the woods where, if anywhere, he was sure to be. There were many wild stories of seeing Tanner; of finding a man's bones, gun and clothing; also of a mysterious white man with long white locks but with Indian nature being seen among the wild Indians in the North, who told wonderful stories and did strange things; but none of these were ever sufficiently authenticated to aid in clearing up the mystery of the tragedy. That season at the Sault was called the Tanner summer and was full of exciting incidents. Everyone was afraid of Tanner in some way or other. The military post for two months sent a regularly-armed guard every night to patrol the Baptist mission grounds and many

tragic scenes and narrow escapes from being mistaken for Tanner and shot by the guard occurred. People who went out evenings went armed to shoot "old Tanner," and he was conjured up in their imagination in every dark corner. Every animal that died old Tanner had killed; everything that was lost old Tanner had stolen; everyone who was missed or was behind time old Tanner had slain. The youngsters at Sault Ste. Marie shivered and shuddered throughout the entire summer.

During the Mexican war, Lieut. Tilden, who had been stationed at the Sault at the time of the tragedy, was sent to the front with his regiment. He became involved in some trouble there causing him to be court martialed. During the trial it was hinted that he was suspected of the murder of James Schoolcraft, which was likely to affect the verdict of the court, and Lieut. Tilden accordingly wrote to Rev. Mr. Bingham asking him to get signers to a circular among the citizens exonerating him from this suspicion. This was the first that Mr. Bingham had heard of Tilden's name in connection with the murder. He was glad to help Mr. Tilden and asked citizens to sign the circular. To his surprise Judge Samuel Ashman, at the Sault, refused to sign, saying that he was not satisfied that Tilden was not the guilty man after all. To Mr. Bingham's great astonishment others were of a like opinion, and upon investigation he found that James Schoolcraft and Lieut. Tilden had had some sort of dispute not long before the murder and that Lieut. Tilden in speaking of it had been heard to say that "cold lead would settle it." Major Kingsbury knew of this, which accounted for his visible excitement when the news of the murder reached him. No steps were ever taken to connect Lieut. Tilden with the tragedy, however, and the story that he had anything to do with it is both wild and improbable. It was claimed that on the afternoon of the murder two soldiers came in from pretended hunting in the woods with their guns, the barrel of one being empty, and that these soldiers had been hired by Lieut. Tilden to shoot James Schoolcraft. It is not probable, however, that Tilden, having made public his hostility to Schoolcraft, would have hired two men instead of one to do the dreadful business. It is probably true, however, that these two men did come in from the woods at this time with their guns, and it is singular that about a month after the murder while they were standing with a group of soldiers near the front gate of the fort, there suddenly came up one of those lightning strokes and thunder claps out of a clear sky, accompanied by an almost instant downpour of rain, and immediately after the explosion it was seen that the two soldiers had been struck and killed by lightning, while everyone else in the group remained unharmed. Their bodies were

only slightly marked and Dr. Byrne, post surgeon, worked over them for a long time, but without avail. They were borne with muffled drums to the military cemetery and buried with military honors.

The records of the War Department show that Lieut. Tilden resigned in 1848 and died ten years later. While Tanner had an avowed intention and a given motive for killing James Schoolcraft, and while it is known that he disappeared immediately after his house burned down (none of his bones were found in the ruins) yet there were members of the Schoolcraft household who believed that it was Tilden and not Tanner that killed Schoolcraft. Martha Tanner, the half-breed daughter of John Tanner, who lived to a great age at Mackinac Island, deepened the mystery of the deed by maintaining that Tilden had upon his deathbed confessed to the crime.*

The hauling of the schooner Uncle Tom over the rapids on June 10, 1847, with Peter White's unsuccessful attempt to secure passage on the schooner Merchant bound for the copper country, has already been decribed. It would be well if there could be introduced a more extended pen picture of the social life of this little settlement, but the main purpose of this story is to relate the conditions that surrounded the early development of the iron fields. But there were characters at the scene both lovely and picturesque. The fame of La Branche, one of the snowshoe travelers, still lives. It is related of him that at the instigation of James L. Schoolcraft he made a special trip from the Sault to Mackinaw and return within thirty hours. Upon his return he remained outside of the Sault on Coalpit hill over two hours in order that he might reach Schoolcraft's store in the fort at the expiration of the time allowed. He feared that an earlier return might deprive him of the extra compensation he was to have. La Branche celebrated his success by dancing the greater part of the same night.

In 1849 the cholera made its appearance at Sault Ste. Marie, the first victim being Morris W. Stevens of the St. Mary's hotel, who was attacked on Saturday and buried the following day. The disease became epidemic and spread with fearful rapidity, numerous deaths following, so much so that the boat which was to leave for Detroit at 2 P. M. the following Wednesday was detained for two hours to enable the passengers to bury their dead and leave for their homes in the lower peninsula. Within a half hour after the boat's leaving not a living being could be seen upon the

* Hanging on the wall in the library of Peter White's home at Marquette to-day is a portrait of John Tanner, showing a striking and virile face. Peter White has never shared in the belief of Tilden's connection with this crime; nor does he regard the confession, if made, of any importance. He says that men have been known to confess to crimes which they did not commit, as for instance by brooding long upon an event to actually imagine that they committed it.

main street of the village; nor was there a guest left at either of the hotels.

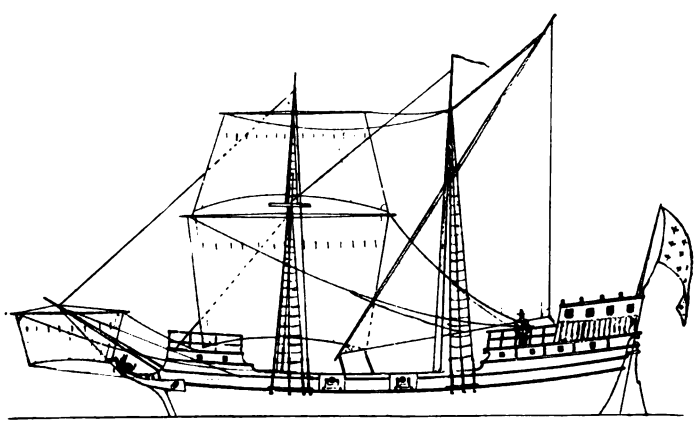
In 1852 congress passed the act granting 750,000 acres of land to the state of Michigan to aid in the construction of the canal, and in 1853 Charles T. Harvey broke ground for the improvement. The first shaft was dug right down through the Indian burying ground to the great distress of the surviving Indians, to whom this spot had been reserved forever by treaty of the government. Shegud, the Chippewa chief, solemnly protested against this desecration and urged the fulfillment of the government's promise.* He had native powers of eloquence but he was persuaded that his protest would be in vain.

* In the old town of Sault Ste. Marie there is a burial ground probably first used over two centuries ago by the early French missionaries, explorers and fur traders. It was directly on the banks of the river but has now been obliterated for nearly a century. A most interesting relic found not long ago in an excavation there is a little crucifix, made in France, exquisitely wrought in iron and silver, much discolored, but otherwise perfect, buried with some faithful French priest of the Roman Catholic church. How quietly the sleepers have lain there on the banks of the river, unmindful of the changes passing by—summer and winter; the swift flowing water and the solid ice; the wild war cries of the savages in combat and the planting of the cross and the intoning of chants of the Christian church; birch canoes flying past with quick strokes of the paddles, accompanied by shouts and weird songs; bateaux of the fur traders from Montreal and Quebec with their voyageurs keeping time to their strokes with quaint Canadian boat songs; the patient gliding of sail vessels with their modest freights; the little high pressure steamboat puffing its way up with great importance at stated periods; the larger steamers in occasional trips with their loads of tourists, until in the march of civilization the birch bark canoe with its paddle, the bateau with its voyageurs, have given place and yielded possession to giant steamers that even the oceans of the world can scarcely rival.

CHAPTER XII.

LAKE SUPERIOR SHIPPING BEFORE THE CANAL.

SO enormous has the shipping of Lake Superior grown since the canal was built that it might be well to state what it was before the canal existed. It seems probable that after the unfortunate Griffin,* which it is conceded was the first vessel to be constructed upon the Great Lakes of North America, sail navigation had an earlier development on Lake Superior than on Lake Erie. It appears, indeed, that a Frenchman named Laronde built a bark of 40 tons above the St. Mary's Falls about 1731, the rigging and other material being sent from lower Canada in canoes. It is stated by Capt. Jonathan Carver, who traversed Lake Superior in 1766, that "The French, while in possession of Canada kept a small schooner on this lake." The loss of this vessel is reported soon after the conquest of



THE CORRECT RIG OF THE GRIFFIN.

* The Griffin was built by Cavalier de la Salle in May, 1679. La Salle landed at the mouth of the Niagara river on the spot now known as Fort Niagara, in December, 1678. He secured from the Seneca chieftain permission to build a vessel to navigate the inland waters. The site of the construction of the Griffin has been located as nearly as possible on the farm of Jackson Angvine, close to the Niagara river. The vessel was between 45 and 60 tons burden, both figures being given by various historians. She was fancifully pictured as a schooner, but the schooner rig was not introduced until about thirty years after the Griffin was launched. The correct rig of the Griffin is conveyed in the acompanying line drawing which was discovered by Richard P. Joy, of Detroit, in a little leather covered French book published by Father Hennepin in 1711. It is probable that La Salle obtained the design for the vessel when in France, and that her rig was the prevailing rig for vessels of that period.

Canada by the British. The discovery of copper led to the building of a sloop of 70 tons above the St. Mary's Falls, which was launched in 1772. It was used in prosecuting mining enterprises until their collapse a year or two later, when it probably passed into the hands of the fur traders, who from this time monopolized the commerce of Lake Superior for many years.

The early history of the commerce of Lake Superior cannot be understood without reference to the remarkable commercial organizations which were formed mainly for trade in furs. The first and most important was the Hudson Bay Co., which was chartered by Charles II. in 1670, under the name of "The Governor and Company of Adventures of England Trading Into Hudson Bay." It had exclusive right to trade in and govern all the territory draining into Hudson Bay. For more than a century it exercised these privileges without opposition except as operations brought its agents in contact with the French, then in control of the basin of the Great Lakes. Soon after this territory passed under British control in 1763, the superior advantages of the Lake Superior route to the region northwest of it became manifest.

In 1783, the year when the independence of the United States was acknowledged by treaty, the Northwest Co. was organized at Montreal and at once became a vigorous competitor of the other company, extending its operations across the continent. Its success stimulated the formation of other companies, among them the American Fur Co. by John Jacob Astor. The interests on the British side of the border were practically unified in 1821 by the amalgamation of the Hudson Bay and Northwest companies under the name of the former.

The Northwest Co. employed sailing vessels soon after it was organized, and before the end of the eighteenth century had at least one on Lake Erie and one on Lake Huron. At the beginning of the war of 1812

On her main mast the triangular latteen sail was used then universally, and on her fore mast the two square sails, also common on vessels of the time. As the triangular jig or staysail did not come into use until the early part of the eighteenth century, it is probable that the Griffin carried a spritsail on her high bowsprit. Even as late as the year 1750 the spritsail was common to all sea-going vessels.

The Griffin is the first mystery of the Great Lakes. She sailed out of the Niagara river on August 7, 1679, under command of La Salle. The vessel was navigated by an old salt water seaman who acted as pilot, and in four days the Detroit river was entered, and along its banks the members of the ship's company killed bear, deer and other game. The Griffin reached Mackinac in good season. After a short stay at Mackinac she set sail for Green Bay and took on a cargo of fur at one of the islands there. On Sept. 18, 1679, she began her return voyage to the Niagara river in charge of the pilot. La Salle and his company remained behind and explored the Illinois river. This was the last seen of the Griffin and her ship's company. She was never heard from again and her fate remains even to this day enveloped in mystery.

the company reported to the Canadian government that it would place at the disposal of the government on Lake Superior a vessel of 120 tons, which could carry six or eight guns, and another of 60 tons. These and three others were captured by the Americans; a fourth, cleverly hid in an obscure harbor on Isle Royale, escaped detection, and at the end of the war was run down the St. Mary's rapids for service on Lake Erie.

The year after the war closed congress passed an act prohibiting British fur traders from prosecuting their enterprises within the territory of the United States. This gave the American Fur Co. its opportunity, and before many years had elapsed it had sailing vessels both above and below St. Mary's rapids. It is not certain that the British companies again placed sailing vessels on Lake Superior.

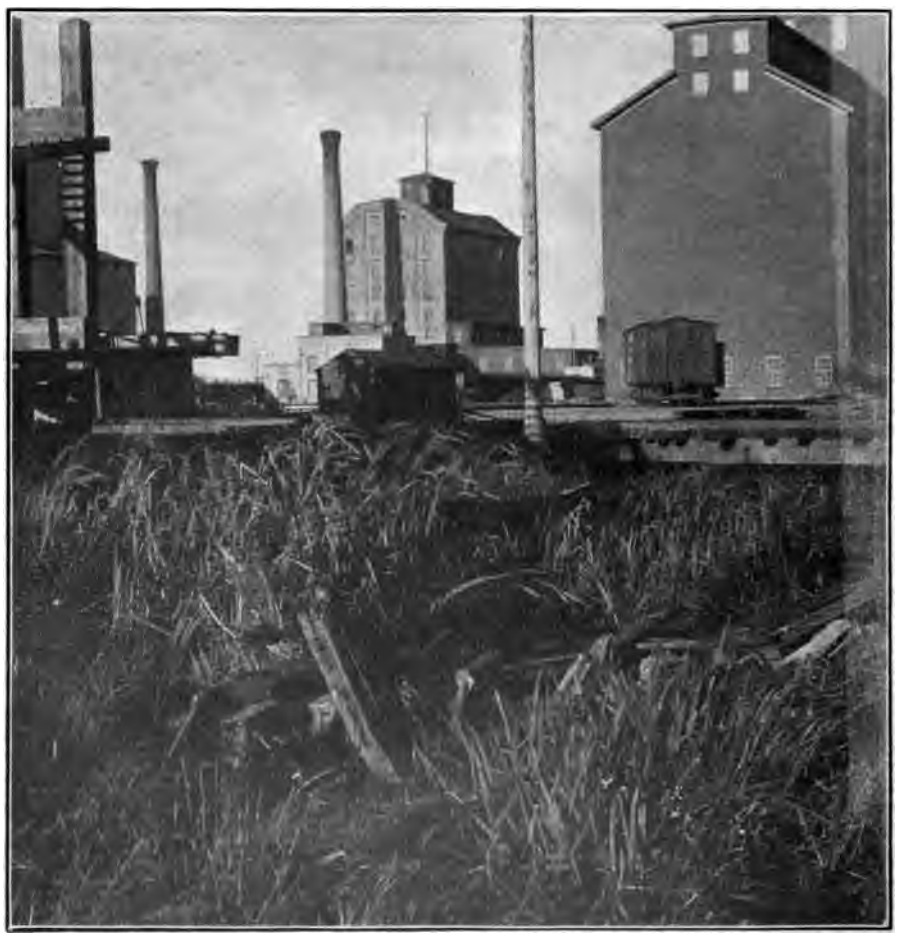
The British, however, were not entirely driven from the lake. They had a steamer in service in 1822 and 1823 in which Lieut. Bayfield of the Royal Navy made a survey of the lake. This schooner was probably the Mink, furnished him by the Hudson Bay Co. Considering the time consumed and the means at hand, Bayfield's work was wonderfully well done. The shore line and depths of water, islands and sunken rocks were represented with surprising accuracy and detail, and Bayfield's charts remained standard for fifty years.

Previous to 1829 the fur companies had in their employ on Lake Superior the following vessels: Invincible, Otter, Mink, Recovery and Discovery. They were schooners varying in size from 20 to 100 tons burden and were all built on Lake Superior. The Invincible was wrecked on White Fish Point about the year 1822. The Discovery went to pieces in running the rapids at the Sault. The Mink went ashore on the Canadian side above the rapids and was entombed there. The Recovery safely run the rapids in 1829 and was purchased by Merwin & Giddings, of Cleveland, and ended her days on Lake Erie. The fate of the Otter is unknown.

During the six years that followed 1829 the only vessels that navigated Lake Superior were bateaux and birch bark canoes.

In 1835 George W. Jones built above the Sault a schooner of 113 tons and named her John Jacob Astor. She made her first voyage in August of that year under the command of Charles C. Stanard, who upon that selfsame trip (at 4 p. m., August 26) discovered the celebrated rock which bears his name. He continued to sail the Astor until the end of the season of 1842. The next year his brother, Capt. Ben A. Stanard, succeeded him in command and he was on her when she was wrecked at Copper Harbor, Sept. 20, 1844.

The schooner William Brewster, named after the agent of the American Fur Co. at Detroit, was built for that company above the rapids in 1838. She was sailed first by Capt. John Wood, and he had command until the fall of 1841, when she was laid up at La Pointe. In 1842 Capt. Ben



SHOWING ALL THAT IS LEFT OF THE ALGONQUIN IN THE BULRUSHES AT DULUTH.

Stanard fitted her out and sent her to Detroit, thus ending her Lake Superior career.

The schooner Algonquin, 50 tons burden, built at Cleveland by Richardson & Mendenhall, was hauled over the portage at Sault Ste. Marie in

1839 and made her first trip on Lake Superior in 1840. She was the first vessel to be hauled over the portage into Lake Superior, and was successively commanded by Captains Rockwood, Goldsmith, Smithwich and McKay. It was this vessel under command of Capt. McKay which made the rescue of Angelique on Isle Royale in the spring of 1846, as is elsewhere related in this history. It was the Algonquin which carried John Hays to the scene of his wonderful discoveries of copper, and for a considerable period of time she was the only thing bigger than the bateaux on Lake Superior and after the loss of the John Jacob Astor practically handled alone the serious commerce of this mighty lake for a year. The Algonquin indeed had a long and honorable career and her hull is resting even to this day in the bulrushes near Duluth, where she sunk in 1856. There was some talk during the World's Fair of 1893 of resurrecting the Algonquin and sending her to the exposition as an exhibit of what was once the most splendid craft on Lake Superior, but the project was abandoned. It would indeed have been a striking object lesson.

The schooner Madeline, belonging to the American Fur Co., 20 tons burden, was built at La Pointe in 1839. She was sailed by Capt. John Angus and was wrecked at Isle Royale the same year.

The schooner Siscowit was later built by the American Fur Co. and sailed by Capt. Angus. Subsequently she was owned by Capt. Bendry of L'Anse, later of Baraga. The manner of her death has been told in the chapter devoted to the early discovery of iron in the Marquette district.

This practically embraced the list of vessels on Lake Superior until 1845, when the growing commerce made it necessary to increase the tonnage. It was found more convenient to haul the vessels over the portage than to actually build them on Lake Superior.

In 1845 the following vessels were taken over the portage into Lake Superior: Schooner Ocean, 15 tons; schooner Fur Trader; schooner Chippewa, 20 tons, Capt. Thomas Clark, master and owner; schooner Florence, 20 tons, owned by Antrim & Keith, taken over on the Canadian side and sailed by Capt. David Keith. Then followed the schooner Swallow of 80 tons' burden, which was sailed by Capt. Smithwich and which finally became the property of Capt. James Bendry, of L'Anse, later of Baraga. Bendry later concluded that she was too large for the traffic of Lake Superior and sent her to the lower lakes.

The schooner Merchant was hauled over in 1845 and was sailed in 1846 by Capt. Brown. She was wrecked and sunk with all on board off Grand Island in 1847. It has already been stated that the subject of this

sketch vainly endeavored to take passage on the Merchant for Copper Harbor on this trip but was refused because she was already overloaded with passengers.

The first steamer ever to sail the waters of Lake Superior was the propeller Independence, of about 280 tons burden, which was put over the portage in 1845.* Capt. A. J. Averill was her master and part owner.

* The first trip of the Independence on Lake Superior, as well as the conditions obtaining at that time, are well told by Mr. Lewis Marvill, of Parksville, St. Joseph county, Michigan, who was a member of the crew of the Independence. He states:

"My memory carries me back to the spring of 1845, or more than one-half of a century, and I have a vivid recollection of standing on Dorr & Webb's dock, in Detroit, early in the spring watching the process of transforming a little tub of a sloop of about 15 tons, into a fore-and after, called the Ocean. My funds being rather low I decided to ship if I could, and ship I did. We took in a cargo of fish for Sandusky and Milan, O., and in due time sailed for these ports, and returned without any mishaps. We then received orders to fit up for Lake Superior, which we accordingly did, but being slightly indisposed when we got ready, I could not proceed with the vessel, which sailed without me. Some time in June, the same firm that owned the Ocean bought and fitted up the topsail schooner Merchant of about 75 tons, Capt. John Watson, for the same trade, i. e., Lake Superior, and I being determined to visit that famous lake, shipped on her, with the understanding that I might join my own ship (the Ocean) at the Sault if I felt so disposed. In due time we took on board all the necessary materials for taking both vessels, the Ocean and the Merchant, over the rapids and reached the Sault, where we found the Ocean waiting for us. We fell to and worked her over in short meter, and then tackled the larger one, the Merchant. They were taken over on rollers, the same as buildings are sometimes moved. When we had her about half way across, word came that a steamer had just arrived from Chicago, with all the rigging on board, to be taken over the rapids. A few days after a misunderstanding arose among the crew of the Merchant, and a part of them quit and left her. Hearing that they were in want of a porter on board the newly arrived steamer Independence, then lying at McKnight's dock getting ready to be hauled over, I applied and got berth of porter and immediately began my duties as such.

"Everything being in readiness the ship was hauled out of the water and began its transit across the neck of land forming the rapids. No mishaps occurring the progress of hauling progressed slowly but surely, and in about seven weeks we were again launched in the river at the head of the falls. In the meantime the schooner Napoleon of about 150 tons was being put together (her whole works having been got out and shipped there already) and she was launched a short time before the Independence, and so was the Merchant, she having stuck in the process of launching, which caused considerable delay. By this time it had got to be quite late in the fall and it began to be feared that we would not be able to make the trip before we were frozen in. But we finally got away with a crew of fourteen men and steamed up the lake. The first place we touched at was Copper Harbor, or Fort Wilkins (no such place as Marquette then being thought of), where we found a small garrison and two or three log huts. The next in order was Eagle Harbor, where there were a few prospectors, and then on to Eagle river, where we discharged most of our cargo, but before we could throw off some fifty kegs of powder the wind raised from the northwest and kicked up such a sea that we had to weigh anchor and leave. We shaped our course for La Pointe, but made very poor headway, the wind being almost ahead. We, however, persevered till we got within sight of the Apostle Islands, when the wind freshened into a gale and we had to turn about and run before it and make for the lee of Keweenaw point, the nearest harbor that we dare enter with safety. In the meantime the sea got running so high that it tossed our little steamer like a shell and rolled so heavy that the stoves broke loose from their moorings and tumbled all over the floor. When it is remembered that it was not generally known among passengers and crew that we had fifty kegs of powder aboard it made rather lively work for us straightening things up. We succeeded in reaching our objective point of safety, where we cast anchor and laid by three or four days waiting for weather, repairing and laying up a stock of wood which we had to chop

She made a trip to Eagle river and La Pointe that fall and then returned to the Sault, where she laid up for the winter. The Independence was built in 1843 by Mr. Averill, father of A. J. Averill, on the north side of the Chicago river, where Kirk's soap factory now stands. She was schooner-rigged, foresail, mainsail and jibs, with two rotary engines to propel her, which in a dead calm would drive her about four miles an hour. Her career was full of vicissitudes and was brought to an abrupt end in 1853 by the bursting of her boiler about a mile above the rapids. Capt. John McKay was master of her at the time and Jonas W. Watson was clerk.

The schooner Napoleon was built at the Sault in the summer of 1845. She was sailed by Capt. John Stewart. In the winter of 1848-1849 she was overhauled and changed into a propeller. This vessel had a most unenviable reputation for heavy rolling. Her curve of stability seems to have been most extraordinary. One passenger in describing his experience on her declared that she picked up fish with her smokestack. After the canal was completed she ended her days doing lighterage work on the St. Clair river helping vessels over the shoals.

The schooner Uncle Tom was put over the portage in 1847.

The first sidewheel steamer to sail Lake Superior was the Julia Palmer, belonging to Capt. W. F. P. Taylor, which was hauled over the portage in 1846. Her career lasted only one season. On the last trip she ever made she was out of sight of land for fourteen days and a most perilous time was had by those on board. Upon her return to Sault Ste. Marie her machinery was taken out of her and she was towed to Wiaskia Bay and used as a wood dock.

The schooner George W. Ford was hauled over in 1850.

When the propeller Manhattan was taken over the portage in 1850, Lake Superior was blessed with a staunch and excellent vessel. She belonged to Spaulding & Bacon and was fast and safe. In June, 1851, the propeller Monticello was taken over the portage by Sheldon McKnight, to

and take off in our yawl, rather slow but sure work. We again set sail, and this time having favorable weather we succeeded in reaching Eagle river, where we bid good-bye to our dangerous cargo (powder), and where some of us strolled up the Cliff mine and there saw the first stamp mill (rather a primitive one) in operation in that now famous region. Returning on board we again steamed up the lake to La Pointe, our final destination (no such place as Ontonagon then being thought of), which we reached in safety, and gave the natives a dreadful scare with the appearance of our craft and the noise of our steam whistle.

"Our trip up the lake now being accomplished, we started on our return to the Sault, which we reached in safety. The season being now far advanced, we immediately proceeded to dismantle the steamer and laid her up for the winter, in company with the following named crafts, which then constituted the available fleet of the greatest of the Great Lakes: The Ocean, about 15 tons; Chippewa, about 20 tons; Algonquin, about 30 tons; Swallow, about 40 tons; Merchant, about 75 tons; Napoleon, about 150 tons, and the Independence, about 365 tons, the first steamer that ever ploughed Lake Superior. Thus ended the memorable first day trip by steam to the mining regions. We found below the falls the steamer Baltimore, which was hauled over either in the winter or early spring. The Napoleon was fitted up the next summer with engines."

compete with the Manhattan. A war of rates was pursued and the feeling between the two lines was very bitter; but the Monticello had scarcely been on the lake three months when a collision occurred between her and the Manhattan. This has never been satisfactorily explained, though it was the general opinion at the time that it could have been avoided. The Manhattan was cut down and sunk near Parisian Island. The Monticello stood by and cared for all of her passengers so that no lives were lost by this desperate proceeding. Mrs. A. R. Harlow, of Marquette, who has the honor of being the first white woman resident of Marquette, was a passenger on the Manhattan at the time. The Manhattan was resurrected and again placed in commission in six weeks. Upon her reappearance at Marquette a deputation of young ladies all dressed in white and carrying bouquets, marched down to the Cleveland dock and presented Capt. Caldwell, the blunt, scarred and weather-beaten master of the vessel, with the American flag, while a high-flown old gentleman, Dr. Livermore, mounted a cast iron cylinder which stood on the dock and read a series of resolutions eulogizing the Manhattan and ending with the prophecy that Marquette was destined to be the greatest place in the world. Two of the resolutions read as follows:

"*Resolved,* That in our opinion Marquette has become a place of business and resort sufficient to warrant its being made a stopping place by all boats on their upward as well as downward trips and that the time is not far distant when the commercial business growing out of these rich and inexhaustible mountains of iron will alone require more shipping than at this time floats upon this lake.

"*Resolved,* That in our estimation those iron companies who have been the pioneers of operations here, and who have had incredible and unforeseen difficulties, disappointments and misfortunes to grapple with are deserving of a favoring and fostering consideration, and it is a source of much gratification that the smoke of their fires and the clink of their hammers give indications that days and years of prosperity are in store for them."

The two iron companies which he referred to were the Marquette Iron Co. and the original Jackson Iron Co., both of which failed later.

A few weeks later the Monticello after coming out of Ontonagan was discovered to be taking water rapidly. Both sea and wind were very high and she made her way slowly. Finally her fires were put out by the water rising to the furnaces and she went on the rocky shore about twenty miles above Eagle river and pounded to pieces. She had undoubtedly been

cracked from stem to stern in the collision, but during her brief life she was undoubtedly the star vessel on Lake Superior. The Manhattan was wrecked in trying to enter Grand Marais harbor in 1858.

The hauling of vessels over the portage continued, the fine sidewheel steamer Baltimore being hauled over by the McKnight line in 1852. She was commanded first by Capt. Jack Wilson, then by Capt. Redmund Ryder, Capt. John Shooks, and finally by Capt. John Reed.

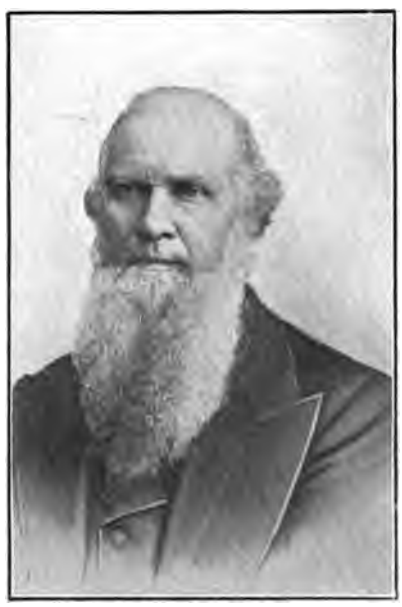
The propeller Peninsula was put over the portage by the McKnight line in 1853. She was commanded by Capt. John Reed, and was wrecked the same year at Eagle river. She did not carry passengers to any extent but was a large freight carrier.

Capt. Eber Ward also hauled the sidewheel steamer Sam Ward over the portage in 1853. The Sam Ward was the last vessel to be launched in this manner on Lake Superior, as actual work on the canal had now been begun.

CHAPTER XIII.

CONSTRUCTION OF THE SAULT STE. MARIE CANAL.

MICHIGAN was admitted into the union as a state in 1836, and Gov. Mason in his first message to the legislature, convened in 1837, advocated the building of a canal by the state of Michigan. This is the first action on record regarding the construction of the canal on the American side of the rapids. On March 21, 1837, the legislature of Michigan passed an act authorizing a survey for the canal and appropriating $25,000 for the work. This original survey, made under the direction of John Almy, recommended a canal 75 feet wide and 10 feet deep, with two locks each 100 feet long, 32 feet wide and 10 feet deep, the total cost to be $112,544. On Sept. 7, 1838, the state of Michigan entered into contract for the construction of the canal with Messrs. Smith & Driggs of Buffalo. Work was not begun until May, 1839. The route of the canal traversed the U. S. military reservation, and as the federal authorities had not approved of the undertaking, the officer in command, acting under orders from Washington, marched a detachment of soldiers to the scene of operations and forcibly ejected the contractors, who had begun their work by filling up a government mill race on the military reservation. Thus ended the first attempt at canal making.



JOHN BURT.

Michigan, however, did not drop the matter. On March 27, 1840, the

Michigan legislature passed a joint resolution protesting against federal interference with the work. Three days later a memorial on the subject was presented to congress. A bill was also introduced in congress to grant 100,000 acres of land to aid in the construction of the canal.

It is interesting to observe that the passage of the measure was advocated mainly on the ground that it would "stimulate the fisheries of Lake Superior," estimated to be worth $1,000,000 per annum. It was incidentally added: "In the country bordering the southern shore of Lake Superior copper and other minerals are believed to exist in abundance." The bill, however, was not passed. In 1843 a further attempt was made, but the great Henry Clay opposed it on the ground, to use his own words, "that it



ORIGINAL UPPER LOCK OF 1855.

contemplated a work beyond the remotest settlement in the United States, if not in the moon."

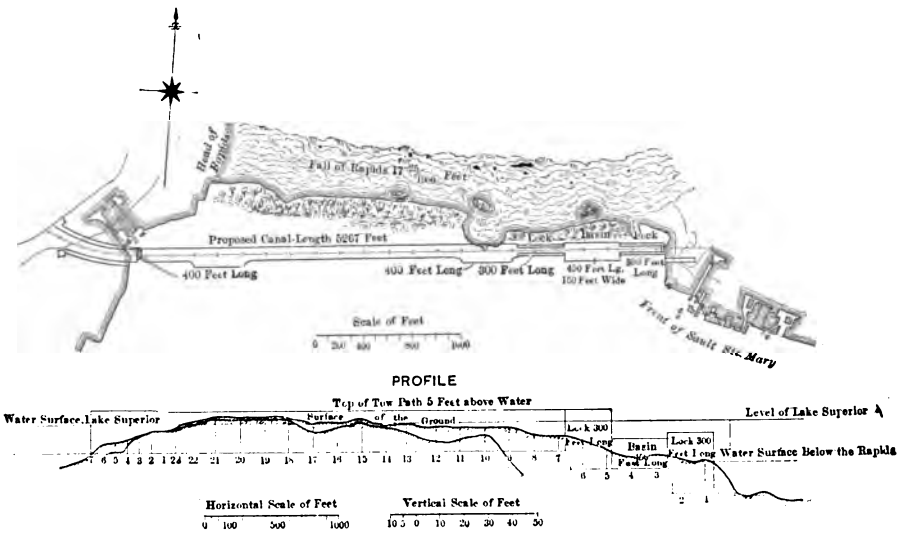
Thus the matter rested until the meeting of the legislature in 1843. On January 24 a joint resolution passed that body asking congress for an appropriation for the construction of the canal. Copies of this action were sent to the legislatures of New York, Pennsylvania, Ohio, Illinois and Wisconsin, soliciting their co-operation. Similar appeals followed in 1844, 1848 and 1849, proving that ten years of futile effort had not discouraged the pioneers. In 1849 John Ingersoll, representative of the legislature from Chippewa County, and Jonathan P. King, from Mackinaw, took hold of the matter again and secured the passage of a joint resolution by the legislature, asking



PHOTO SHOWING METHOD OF OPERATING ORIGINAL LOCK GATES.

congress to appropriate $500,000 in money for the construction of the canal. Congress, however, took no action.

In 1851 John Bacon, of Chippewa County, and E. J. Roberts, of Houghton County, secured the passage through the legislature of a similar resolution calling upon the general government for $500,000. Meanwhile Judge William A. Burt and his son John Burt were working loyally in Washington to interest congress in the enterprise. They supplied Senator Felch with all material facts relating to the great natural resources of the region in iron



FIRST MAP OF PROPOSED CANAL AND LOCKS AT SAULT STE. MARIE. PREPARED BY CAPT. CANFIELD AND JUDGE BURT IN 1852.

and copper and did much to convince congress that the construction of the canal was not the dream of a few enthusiasts, but a great commercial necessity. Through the indefatigable energy of John Burt all the powerful men in the peninsula, including Abner Sherman, Heman B. Ely, Peter White, Samuel W. Hill, J. Vernon Brown, Samuel Ashmun and P. P. Barbeau, lent their efforts to the furtherance of this project. Committees from the peninsula spent the winter of 1851-52 in Washington presenting indisputable evidence to congress that the canal was needed as a great artery of transportation. As a result of this effort congress passed an act on August 21, 1852, granting 750,000 acres of land of the state of Michigan to aid in building the canal. Congress required that the canal should be at least 100 ft. wide and 12 ft. deep, with locks at least 250 ft. long and 60 ft. wide, allowing three years for beginning the work and ten years for its completion.

Thus after fifteen years of almost constant effort governmental aid was secured, but in such questionable shape that even the promotors felt far from satisfied. There was no assurance that any company could be prevailed upon to build the canal for the land grant. Mr. Vernon Brown returned to the Sault and published a very discouraging article regarding the prospects. In fact about the only person that had any faith was John Burt.

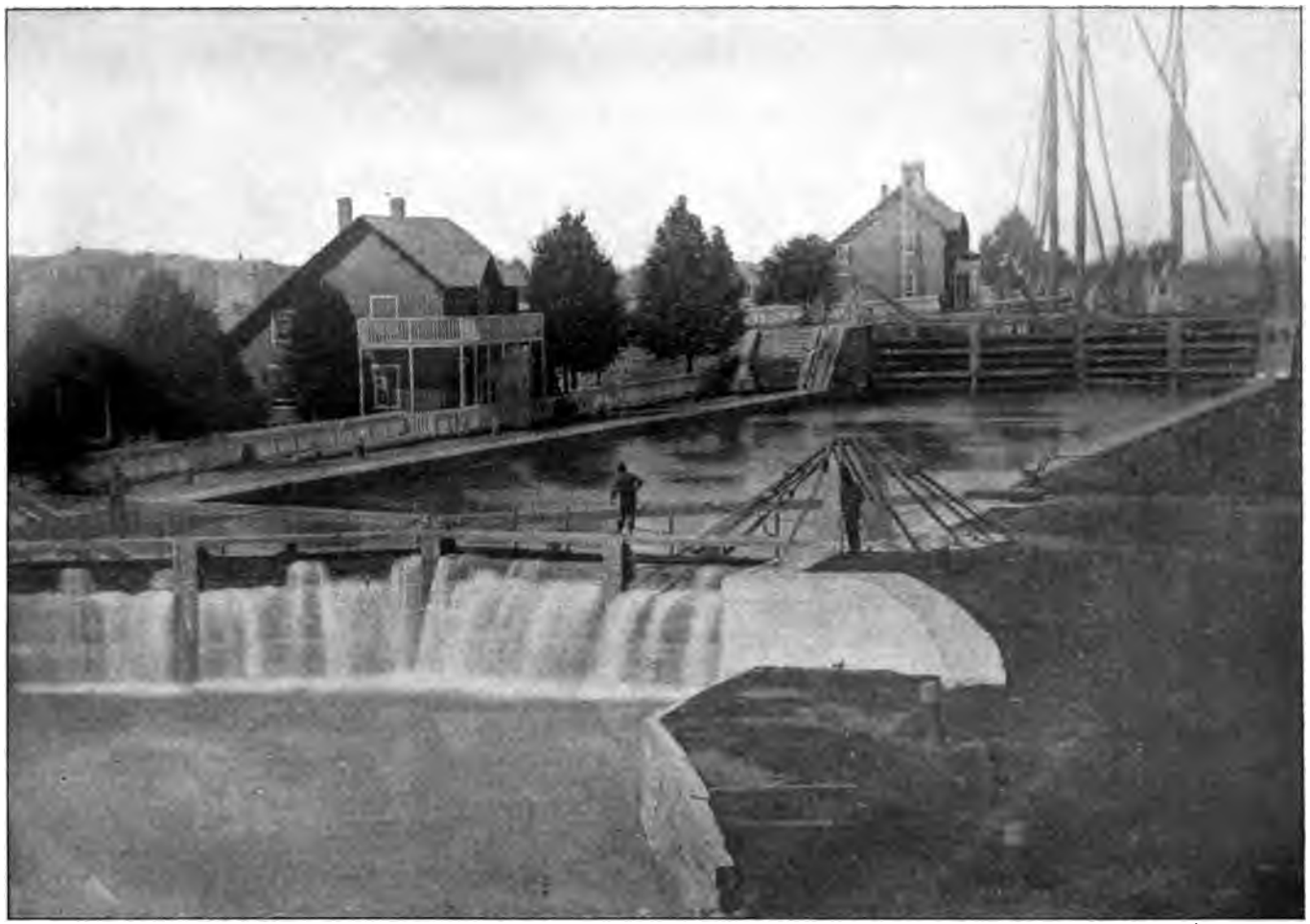
Immediately upon the passage of the act by congress, Governor McClelland, of Michigan, requested the secretary of war to make an immediate survey of the proposed canal. For the want of a specific appropriation for this purpose the request was not complied with. The governor then secured the services of Captain Canfield, United States topographical engineer, to make the survey. It was necessary that this should be done at once in order that the matter might be laid before the legislature, which convened the coming winter, otherwise a delay of two years would ensue. To be assured of prompt action by the legislature, John Burt with the aid of his friends secured the nomination of his father as a candidate for the legislature from Macomb County and also prevailed upon Heman B. Ely to secure the nomination in Chippewa County. Judge Wm. A. Burt immediately joined Captain Canfield and together they made a survey of the route and prepared plans, profile and estimates of the cost of the canal, which were submitted to the legislature. This map is reproduced herewith showing locks 300 ft. in length and 60 ft. in width with a lift of 10 ft. This survey was incorporated by Governor McClelland in his message to the legislature. While congress had provided for locks 250 ft. long, the plans proposed locks 300 ft. long at the urgent request of leading interests in the Lake Superior region. John Burt, however, was quite insistent in urging that the locks be 350 ft. long and 70 ft. wide. At one time it appeared as though the whole project would fall through owing to the great diversity of plans.

In this connection it is interesting to publish the following letter from Eber B. Ward, then the largest individual vessel owner on the lakes, and the foremost man of his time in the lake region, protesting against the increase in the size of the locks to 350 ft. on the ground that the narrow, shallow and rocky channels in the St. Mary's river would forever deter the largest class of steamers from navigating these waters. A fac-simile of the letter is also printed.

"DETROIT, Jan. 29, 1853.

"*Hon. Wm. A. Burt.*

"Dear Sir: The deep anxiety I feel in common with the rest of the community for the early completion of the Sault Ste. Marie canal induces me to write to you on the subject.



THE LOCKS THAT WERE IN CONTINUED USE FROM 1855 TO 1887.

"I fear the defeat of our long cherished hopes.

"The legislature in their anxiety to prevent undue speculation by those who would be disposed to contract to do the work are in great danger of going to the opposite extreme, and make such requirements as will deter competent men from taking the contract for the land. The size proposed by the senate bill, 350 by 70 foot locks, is entirely too large for the locks. The crooked, narrow, shallow and rocky channels in the St. Mary's river will forever deter the largest class of steamers from navigating these waters. Aside from the impediments in the two lakes George, there are several places where the channel is very narrow, with but 11 feet of water clear of rocks, and the channels too crooked for the large class of steamers to pass in safety.

"This I regard as a conclusive argument against making the locks so large as is contemplated.

"I do not believe there is the least necessity for making the locks over 260 feet in the clear and 60 feet wide, as no vessels of larger dimensions than could pass such locks can be used there with safety without an expenditure of a very large sum of money in excavating rock at various points along the river, a work that is not likely to be undertaken during the present century.

"The value of wild lands may be estimated by ascertaining the amount actually realized by the state for the large grants that have heretofore been made for purposes of improvement when no taxes were collected until lands were sold to settlers. I think it will be difficult to find the value of 25 cents per acre for all such grants made to this state. A well organized company might make the lands worth 75 cents per acre, provided they were not taxed while held by the company. I have no doubt the smallest sized canal required by the act making the grant of land would cost $525,000 or 70 cents per acre. Add eight cents per acre for interest during the construction of the work and 15 cents per acre for selection and location, brings it to 93 cents per acre, a price at which any quantity can now be located without any risk of loss and with much greater chances of making desirable selections. If the legislature will appoint a committee who shall act with the governor to make the best contract for the state they can, holding them responsible for a faithful discharge of their duties, I feel confident we shall succeed in securing the great object of our wishes. But if the bill should materially restrict the governor in his powers I think we have good reason to fear that the most vital interests of the state will be delayed for years to come.

"Hoping for a favorable issue to this absorbing question, I remain,

"Truly yours,

"E. B. WARD."

Detroit June 29th 1852

Wm Thos A Burt

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by the act granting the grant of
land would cost $425,000 or 70¢
pr Acre Add 8¢ pr Acre for interest
during the construction of the work
and 10¢ pr Acre for selection and
location brings it to 93¢ pr Acre a
price at which any quantity
can now be located without any
risk of loss and with much greater
chances of securing desirable
selections - If the Legislature will
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we have good reason to fear that the most vital interests of the state will be delayed for years to come

Hoping for a favorable issue to this absorbing question

I remain Truely Yours E B Ward



CAPT. EBER B. WARD.

The argument in this letter from a business standpoint was a good one nevertheless because an amount of land equal to that granted by congress could have been purchased at the regular rate for less money; but it should be remembered that the ship canal company had the valuable privilege of selecting lands not yet thrown upon the market, which privilege they were to exercise later with the greatest wisdom and great good fortune.

The act was finally passed on February 5, 1853, and the governor was authorized to appoint commissioners to contract for the construction of the canal. The governor appointed Chauncey Joslin, Henry Ledyard, John P. Barry, Shubael Conant and Alfred Williamson as commissioners.

Nothing more was now necessary than to secure the construction of the canal for the compensation that the state had to offer. During the preceding summer there had been at the Baptist mission at the Sault a young man named Charles T. Harvey, recuperating from the wasting effects of a severe attack of typhoid fever. He was in the employ of Messrs. E. & T. Fairbanks & Co., scale manufacturers of St. Johnsbury, Vt., as general

western agent in charge of the establishing agencies for their weighing machines in the large western cities. He had been sent to the Sault by his employers primarily for his health, but incidentally to inquire into the mining resources of the region as his returning strength permitted. The bent of his mind was intensely practical, and upon learning of the land grant act he immediately examined the locality where the canal must be built with special attention. His practical mind saw the immense possibilities of the venture. He wrote to his employers expressing his views upon the subject lucidly, pointing to the immense mineral wealth lying latent, the probability that lands of great value could be selected and to the general lack of public knowledge concerning the country and the magnitude of the enterprise. He asked and was granted permission to devote his time to the project. Going to New York state he secured the services of one of the most experienced engineers on the Erie canal, Mr. Nichols, of Utica, and returning with him to the Sault on the steamer Northerner in November, he organized a surveying party. While Nichols made a survey of the canal site, Harvey made a trip down St. Mary's river to explore for a suitable quarry to furnish stone for the locks, locating one eventually on Drummond's Island. When the legislature convened Harvey attended the sessions and proved a valuable guide and source of information to the members.

When the bill was passed Messrs. Fairbanks invited well-known capitalists in New York and New England to join with them in making the necessary bid, which was formally tendered and accepted by the state commissioners on April 15, 1853. The first name in the list of bidders was that of Mr. Joseph P. Fairbanks, his associates being J. W. Brooks, Erastus Corning, August Belmont, H. Dwight, Jr. and Thomas Dwyer. Their sûreties were Franklin Moore, Geo. F. Potter, John Owen, James F. Joy and Henry P. Baldwin.

As soon as the bill was signed, Harvey secured from the governor of Michigan an appropriation as special agent for the state to select the lands to be donated within its border by congress in aid of the canal. He engaged a steamer to take him to St. Mary's river, which was then closed by ice, and dispatched a special messenger on snow shoes to the United States land office at the Sault, authorizing a deputy to withdraw lands from sale in certain localities which Harvey designated. He then went to Washington and secured from the United States Land Commissioner confirmation of his power to do so, which was afterwards litigated but sustained by the courts. The knowledge upon which he had acted he had gained in his tour among the mines during the previous summer, and the 140,000 acres,

more or less, which he secured in the upper peninsula realized millions and millions of dollars to his principals in later years. It is sufficient to state that among the lands selected by Harvey was the location which was afterwards developed into the Calumet and Hecla mine, this mine having declared to date over $75,000,000 in dividends.

The constitution of Michigan at that time forbade all special charters, and Harvey accordingly went to Albany, N. Y., and secured a charter for the St. Mary's Falls Ship Canal Co. from the New York legislature. To this company Fairbanks and his associates, who had bid as individuals, assigned their contracts at a meeting which was held in the building at the corner of William and Wall streets, New York, then as now occupied by the Bank of the State of New York. The company was organized by the election of officers and directors as follows: President, Erastus Corning, Albany, N. Y.; Vice-President, John W. Brooks, Detroit, Mich.; Erastus Fairbanks, St. Johnsbury, Vt.; John M. Forbes, Boston, Mass.; John F. Seymour, Utica, N. Y., and Benjamin Tibbits, Albany, N. Y., board of directors.

Harvey was made general agent of the company, with unlimited executive powers and a substantial stock interest assigned to him for promoting the enterprise. The sum of $50,000 was placed to his credit in a bank at Detroit, and he was authorized to draw on the treasurer for further funds as needed.

Harvey was then practically told to go ahead and dig the canal. Here he was, practically alone in the world, not much beyond his twenty-fourth birthday, charged with the execution of an engineering undertaking that, considering the times, was simply stupendous. The locality was almost as uncivilized, the resources of the surrounding country were almost as undeveloped as when white men first set eyes upon it two centuries before. Harvey's thoughts as he made his solitary exit from that room were very solemn ones.

He went north. He stopped at Detroit and made it his temporary headquarters. There he engaged C. W. Chapel as foreman of excavation work, purchased horses, tools and supplies, and securing from the United States Indian Agent the rental of the agency premises for his own residence at the Sault, loaded the steamer Illinois to the guards with horses, tools, lumber, provisions and supplies and about 400 men, and set out for Sault Ste. Marie, where he arrived on June 1.

Harvey is one of those men that lose no time. The moment the Illinois touched dock the horses were hitched up into teams, the lumber hauled

to the canal reservation and in forty-eight hours the men were housed in improvised buildings and regular meals provided for them. On June 4, 1853, the third day after landing, the workmen were organized into working gangs of thirty, each under selected foremen, formed in ranks, marched to the site where Harvey, with his own hand, broke ground and wheeled out the first barrow of earth from the cut amid the plaudits of the workmen.*

Work upon the canal was prosecuted with the utmost vigor and under conditions which would daunt anyone but the most determined. As stated, Sault Ste. Marie at that time was a comparative wilderness. The nearest machine shop was several hundred miles away; the nearest telegraph station was at Detroit, 450 miles away. Everyone of the many thousand kegs of powder had to be transported from the States of Connecticut and Delaware. It took six weeks for a letter to reach New York and return a reply. There was not sufficient labor at the Sault to build the canal and agents had to be sent East to board incoming ships, hire immigrants and take them in gangs to Sault Ste. Marie, paying their fare. Some wealthy citizens now living in the upper peninsula might be named who thus found their way into that district. There was at that time a scarcity of labor in the West owing to the railroad construction which was taking place in all parts of the country. It required, in fact, considerable maneuvering to circumvent the railroad agents who were continually endeavoring to persuade the men to leave their work and go with them. All drilling had to be done by hand. There was no way of hastening work except by putting on more men. At one time as many as 2,000 men might have been seen at work within the space of one mile.

The winter days were very short, there being only eight hours of sunlight. The cold was also very severe, the thermometer frequently registering 35 degrees below zero. A man was constantly stationed at the head of each runway for barrows with orders to rub vigorously with snow any man's face which gave indications of being frostbitten, thus preventing the workmen from suffering and obviating the necessity of any man leaving his work. The winters then were far colder than they are now. Indeed

* Mr. Harvey's life is one that offers powerful testimony to the virtue of total abstinence. He has lived a most active life and has done a prodigious amount of work. Yet to-day, though he is approaching eighty years of age, his energy is astounding and is far greater than that possessed by most men of forty. He was actively hostile to the saloon interests during the construction of the canal, so much so that upon one occasion when Mr. Hargreave, the Hudson Bay Co.'s agent on the Canadian side, brought out a bottle of wine, upon his first meeting with Harvey, from the company's reserve stock that was nearly a century old and priceless in value, Harvey astounded Hargreave by declining to drink to anyone's health in it. Hargreave was considerably provoked but was appeased when he saw the depth of Harvey's conviction on the subject. Mr. Harvey established a Presbyterian church at Sault Ste. Marie which was one of the first, if not the first, to be established in the north.

the customary method of preserving meat over winter at Sault Ste. Marie was to cut it into roasts and steaks, salt it thoroughly and put it in a barrel in the woodshed. When a steak or roast was needed it was simply chopped from the frozen mass, the meat keeping sweet until spring.



MR. CHARLES T. HARVEY AS HE IS TODAY.

During the progress of the work upon the canal in 1854 an epidemic of cholera broke out and carried off fully one-tenth of the workmen. Every

effort was made by the management to keep the knowledge of the real nature of the disease from the colony. Therefore all burials were quietly performed at night. The men died like flies, and yet notwithstanding the ravages of the disease the work was not suspended for a single day; and owing to the swiftness and secrecy with which the dead were removed the frightful decimation was not noticed by those who were not visited by the dread pestilence.

But one strike occurred during the progress of the work and that was concluded within twenty-four hours. When the strikers were marching about the town making a long procession of 1,000 or more, Harvey caused the provisions to be removed from the shanties and when dinnertime came and the men returned with good appetites they were informed by the caretakers that orders had come from the office that no regular meals were to be served on such occasions. Fasting was the only alternative, and before bedtime a company of the strikers called on Harvey to say that if he would provide rations they would return to work the next morning. The proposition was accepted and work resumed.

In 22½ months the great work was finished. On April 19, 1855, Harvey opened the sluice gate to the outer cofferdam on the Lake Superior level and let its waters flow into the finished canal prism, doubtless never to be entirely excluded so long as the world endures. The canal was 5,700 ft. long, 64 ft. wide at the bottom and 100 ft. at the water surface, and 13 ft. deep. The locks, two in number, were each 70 ft. wide and 11½ ft. deep on the miter sills, with a lift of about 9 ft. each.

The actual cost was $999,802.46. On June 18 following the steamer Illinois passed up and the steamer Baltimore passed down, and these were the first two vessels to use the canal which opened to mankind the greatest mineral domain in the world and which has conferred a vast blessing upon the country; and without which the United States would indeed today be occupying, not the first as it is, but the least of places among the industrial powers. Shortly thereafter there passed through the canal the North Star, which, as has been related, was the first to bring the message of deliverance to the struggling iron companies at Marquette.

The Honorable Peter White

PART III

First Shipments of Ore

Discovery of Other Ranges

Development of the Ore Carrier

Industries at Sault Ste. Marie

CHAPTER XIV.

FIRST SHIPMENT OF ORE THROUGH THE CANAL.

It is a matter of historical importance that the Cleveland Iron Mining Co. was the first to utilize the Sault Ste. Marie canal for the shipment of ore. The propeller General Taylor could easily have had the honor of carrying the first cargo of ore through the canal from Marquette to the lower lakes, as she was the first vessel that occasionally consented to take ore to reach Marquette after the canal was opened, but it appears that the General Taylor went on to Ontonagon and did not call at Marquette on the return trip.* Though the canal was opened in June, it was August before any ore was shipped through it directly from Marquette. J. H. Andrews, master of the schooner Freeman, which was the first sailing vessel to make the complete trip from the lower lakes into Lake Superior, relates that he took a cargo of ore down on his return trip, but this was a jag of ore that had been left at Sault Ste. Marie by the Napoleon before the canal was finished. The brig Columbia, Judson Wells, master, left Marquette on August 14 with 132 tons of ore consigned to the Cleveland Iron Mining Co. and passed through the canal on August 17. The bill of lading of this first shipment of ore, which has been preserved by the Cleveland Iron Mining Co., reads as follows:

"Marquette, Mich., August 14, 1855.

"Shipped in good order on board the brig Columbia, Wells master, by the Cleveland Iron Mining Co. the following articles consigned as per margin.

"For Cleveland Iron Mining Co.,

"Care of Crawford & Price, Cleveland, Ohio.

Unless otherwise ordered by W. J. Gordon, of Cleveland, Ohio. One hundred tons iron ore $2.75 = $275.00.

"J. WELLS."

*On June 22, 1855, J. J. St. Clair, the mining agent of the Cleveland Iron Mining Co., wrote to Mr. Samuel L. Mather as follows:

"Yesterday and last night we were gratified at seeing at our dock the propeller General Taylor and the North Star from below, affording us the pleasing certainty that we are now in

The second shipment of ore was made by the schooner George Worthington, four days later, the bill of lading reading as follows:

"Shipped on board the schooner George Worthington, Donahue, master, in good order the following articles, consigned as per margin:

"Marquette, Aug. 18, 1855.

"Cleveland Iron Mining Co.,

"Care of Crawford & Price, Cleveland, Ohio.

Unless otherwise directed by W. J. Gordon, of Cleveland, Ohio. Two hundred and seventy-eight tons of iron ore more or less.

"Forest City Iron Co.,

"Care of W. J. Gordon, Cleveland, Ohio.

"Deck load iron ore, 60 tons more or less. Freight to be paid in Cleveland.

"P. DONAHUE."

The third cargo was carried by the propeller General Taylor, owned by Hussey & St. Clair, of Cleveland, consisting of fifty tons of ore at $3 per ton freight. The bills of lading in the case of the Columbia and George Worthington are not accurate as to actual weight. The actual cargo of the Columbia was 132 tons and of the Worthington 322 tons, upon which $2.75 per ton freight was paid. The Columbia was 91 ft. long, 24 ft. beam and was built at Sandusky in 1842. As she had no foreboom her deck was pretty free forward. During the year the Cleveland Co. shipped in all 1,447 tons of ore, which constituted the entire shipments of the peninsula for the season, the other two companies, Jackson and Lake Superior, not being able to ship any at all. The little dock at Marquette was a flat structure without trestle work and the vessels were loaded by means of wheelbarrows. The crews of the vessels loaded the ore, being paid for doing so at the rate of 25 cents an hour. Nearly all the early shipments were carried in schooners. Steamers could not be got to take the ore, and several propellers and sidewheelers found it convenient to decline to stop at Marquette on their way down the lake even after having promised to do so. The fact is that all steamboats in those days carried passengers and were ill fitted to carry ore. Such a thing as a steamer for purely freight purposes had not been thought of. The steamers had good reason to avoid taking cargoes of ore. They had no accommodations for it and it got the steamboat into a disgraceful condition for passenger service. More-

direct communication with the whole world and the rest of mankind. The Illinois is said to be above—could not come down on account of the fog. The North Star was only about eight hours from the Sault—a great revolution in steamboat traveling on this lake. You can send a propeller as soon as you please to get that ore of ours. The largest part is now on the dock and the balance will soon be."



THE BRIG COLUMBIA, WHICH CARRIED THE FIRST CARGO OF ORE THROUGH THE SAULT STE. MARIE CANAL.

over, the only way a steamer could be loaded was by listing her against the dock and trimming the cargo later.

It might be well for the sake of history to follow these few early cargoes to Lake Erie docks. The cargoes of the Columbia and Worthington were delivered at Crawford & Price's dock near the old river bed, Cleveland. The General Taylor's cargo was delivered to Hussey & St. Clair's dock. Naturally the members of the Cleveland Iron Mining Co. were much interested and paid frequent visits to their little stock pile. Mr. W. J. Gordon, president of the Cleveland Iron Mining Co., sent 117 tons of the ore to W. F. Cary for experimental use in the Orizaba Iron Works at New Castle, Pa. A few days later F. K. Beshon, of the Orizaba Iron Works, wrote to Mr. Cary concerning the experiment as follows:

"Sept. 20, 1855.

"W. F. Cary, Esq.,

"Dear Sir:—Yours of the 19th to hand. I have given Lake Superior ore a fair trial but am sorry to say we had to abandon its use for the purpose intended. The shape and size of the pieces are such that it was impossible to build it in the form around the plates compact enough to stay until it had been heated and glazed together, and whenever a portion fell out it would fly to pieces from the heat. What remained in and around the plates would stand the heat well, much better than the Champlain. Another objection by the workmen was that iron worked from it was so dry and free from cinder or nourishment that the iron would not squeeze. The nature of the metal that we are using requires all the cinder that it can contain. The iron made while using the Superior ore, though made from the same metal, was not so firm and tough as when made with the Champlain. We intend to try some in the blast furnace next week when I will be able to give you a better opinion of the quality, etc."



JACOB REESE IN 1855.

It has been related earlier in this history that the initial efforts to smelt Lake Superior ore in the little blast furnaces were of doubtful outcome, and

it can very readily be seen that Beshon's letter to Cary was not very consoling. A few days later W. J. Gordon might have been observed, as a novelist would say, inspecting the little stock pile on Crawford & Price's dock, when he was approached by a man who was to give the Cleveland Co. the first definite encouragement it had received regarding the superiority of Lake Superior ore. This man was Jacob Reese of Pittsburg.*

Jacob Reese was a dealer in iron ores and appears to have had confidence in the Lake Superior product at once. It was through him that a considerable portion of the first few shipments reached the furnaces. His first order to the Cleveland Iron Mining Co. read:

"Please deliver to E. N. Parks & Co., 35 tons iron ore (Lake Superior). Cleveland, Sept. 27, 1855. Jacob Reese."

After talking to him Mr. Gordon wrote and asked him to look into the New Castle experiment. Mr. Reese's reply was quite interesting and was as follows:

"Pittsburg, Oct. 4.

"W. J. Gordon,

"Dear Sir:—Yours of the 25th at hand and in reply would say I have 25 tons of Lake Superior ore coming here for the *purpose* of making a thorough trial of it as a fixing for the furnace, and therefore cannot go to New Castle at present as I desire to personally attend to the trial. Am not surprised to learn that they did not use it to advantage in New Castle. Ordinarily in fixing the ore is placed in the bottom of the furnace and subjected to sufficient heat to melt it. The furnace is then allowed to cool so that the ore becomes semi-liquid and in this pasty state it is removed from the bottom to the sides of the furnace where it remains as a protector of the chills or air plates of the furnace. The Lake Superior ore in the block or quarry form is the most refractory ore that I have ever seen. It cannot be melted in our boiling furnace. However, when it is reduced by stamping or otherwise so that it is susceptible of being thoroughly penetrated by the atmosphere it melts at a very low temperature, and when it becomes

*Jacob Reese was born in 1825 in Wales and came to America with his parents in 1832. The family settled in Pittsburg within a few months after its arrival in this country. James Reese gravitated naturally into the iron business, as that was the business of his father. Between 1850 and 1860 he sold over 50,000 tons of Lake Superior ore in Pittsburg for fettling. He invented quite a number of useful processes in the manufacture of iron and established the firm of Reese, Graff & Dull, whose mills were in Lawrenceville. He retired from active business over twenty years ago, locating at Darby, a suburb of Philadelphia. He maintained a winter home in Dayton, Fla. He died at Darby, March, 1907, one week after his return from his winter home. He wrote a communication to the Bulletin of the American Iron and Steel Association a few days before his death, which proved that he had never lost interest in the great iron business of the United States, of which he was a tower of strength in the days when it most needed help.

solid again it is as refractory as ever. One fixing thus put in will last as long as three fixings of Lake Champlain ore. I have also taken it in its rough form and piled it in and around the furnace as compact as possible and melted a small quantity of Lake Superior ore and daubed up the crev-



JACOB REESE IN 1906.

ices. A fixing of this kind has lasted three or four days whereas with the Lake Champlain ore the operation has to be renewed every twenty-four hours. I make these remarks thinking it probable that they may be of some use to you.

"P. S. Have just seen a boiler from Sharon who says that it is the best fixing that he has ever seen and when properly put up will last a week."

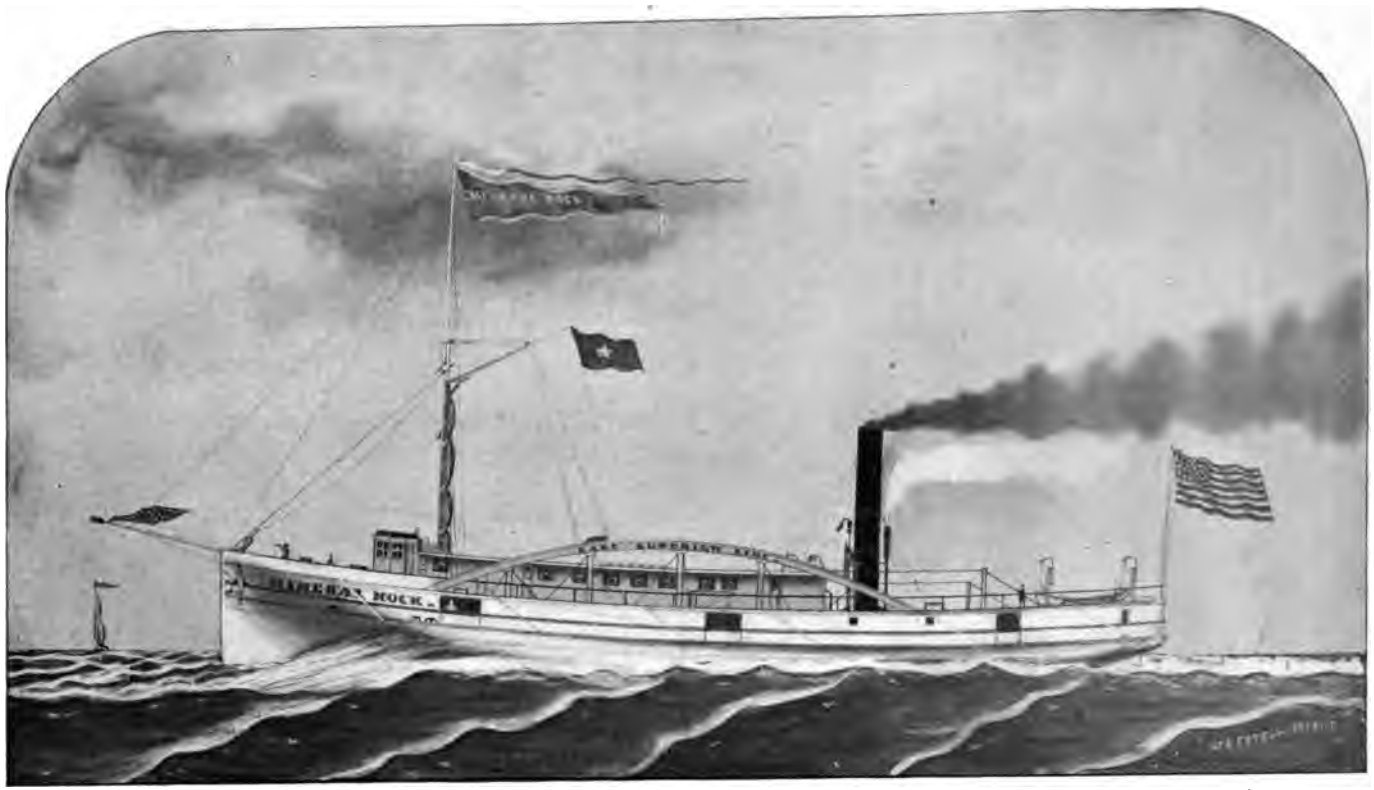
On Oct. 22, 1855, Mr. Reese followed up his experiments with a more substantial order. He wrote:

"I shall need from 400 to 500 tons of Lake Superior ore this fall. You will please retain that amount for my order. Would like to have some of it at your most early convenience. Let me have some of the new kind, if possible. Parties that have tried it here without exception pronounce it superior. I would like to have the refusal of 1,000 tons this fall."

It might be well for the sake of history to follow these few early cargoes to Lake Erie docks. It has been shown that it was put aboard the little schooners by manual labor of the severest sort and at a cost per ton that would today be absolutely fabulous. It took about four days to load a cargo of 300 tons. The unloading of the cargo was an even more arduous undertaking. Whenever possible only deck loads were carried by the schooners owing to the difficulty of getting the ore out of the hold. To get the first cargoes out of the hold of the vessel staging had to be built in the hold about half way up from the bottom. The ore was shoveled upon this staging; then from the staging to the deck and then from the deck to the dock, making three handlings in all. By this process it took nearly a week to unload 300 tons. It was mighty tedious and expensive work. The next method was to unload it by means of block, tackle and a horse. A block carrying a manila rope was fastened to the ship's rigging and a tub attached to the rope was lowered into the hold. Another block through which the rope ran was fastened on the dock and the horse hitched to the end of this rope. The tub was filled by hand shoveling and then hoisted by the horse walking forward. To get the tub back into the hold it was necessary for the horse to back up. Planks laid upon wooden horses, both on the dock and on the deck of the vessel, furnished a roadway upon which the men could



DR. GEORGE B. RUSSEL.



PROPELLER MINERAL ROCK. A TYPE OF 1856.

wheel the barrows of ore off the vessel, two men standing above this temporary staging on deck to empty the ore from the tub into the barrow.

Among the property purchased from the old Marquette Iron Co. by the Cleveland company was sixty-four acres of land in Marquette, and in 1855 the company turned the management of this estate over to Peter White. This got the young man into the real estate business head over heels, in which he has continued ever since with marked success, for Marquette is practically built upon land which Peter White has sold.

The old strap railroad went into operation on Nov. 1, 1855, and lived a strenuous life for two years. The motive power was mules and the cars held about four tons each, which, said Dr. Hewitt in a letter home, "is enough for any car to carry." The cars were flat bottom affairs and when they were first loaded it was found that the load bore so heavily upon the trucks that the wheels scraped against the bottom of the car, which was remedied by cutting away a portion of the platform just above the wheels. A team could not make more than one trip a day, sometimes not that, and for the entire motive power to move 35 tons from the mines to the lake was accounted a big day's work. The grades were simply frightful and the cars frequently ran away, mangling the mules and jumping the track at the first curve. At the first sign of trouble the driver could slide off the car into the soft sand at either side of the track, but the poor mules had no protection. It was pretty expensive business. Mules were costing $1,400

*It should be stated here that George B. Russel, of Detroit, a farsighted and progressive gentleman, who had established a ship yard in Hamtraneck in 1854, conceived the idea of a carrier exclusively for the bulk freight trade and built in 1856 the propeller B. L. Webb, which was the first lake boat to be constructed with a beam of over 30 ft. and designed with special reference for carrying ore. Unfortunately the Webb was burned on her first trip to Lake Superior in November, 1856, while en route from Sault Ste. Marie to Marquette with provisions and mining supplies, so that she never carried any ore at all. On her passage up while in shelter in Wiaskey Bay she took fire, burned to the water's edge and sank, causing the destruction of her entire cargo. The consternation which this loss occasioned in Marquette may well be imagined. It was the last trip of the season and the cargo of the Webb consisted of feed for the horses and provisions for the men. The feed for the horses is mentioned first because it was the most important item, as there was scarcely a ton of hay left in the village nor was there any means of obtaining any until spring. It was at this time that Mr. J. Tallman Whiting, who was associated with Sheldon McKnight at the Sault and in the vessel business, came to the rescue. He decided upon his own responsibility to duplicate the cargo and to send the propeller Gen. Taylor from Detroit as a relief vessel to Marquette and other ports. It was an expensive and hazardous undertaking as no insurance could be obtained on the vessel or cargo and moreover the crew would have to remain with the vessel over winter at Marquette. The trip was successfully made and though high rates of freight were charged the inhabitants of Marquette were very glad to pay them. Freight was carried by the barrel bulk in those days and not by weight. Upon this particular trip the rates were $3 per barrel to Sault Ste. Marie, $4 to Marquette, $5 to Eagle Harbor, and $6 to Ontonagon. There was a consignment of stovepipe aboard which was charged at the modest rate of 50 cents per joint. The Gen. Taylor reached Ontonagon in safety and was laid up there for the winter.

per pair in the peninsula and hay occasionally went to $50 per ton. The track, too, was constantly getting out of shape.

Both companies realized that the strap railroad would never do, and when congress passed the land-grant act to stimulate the construction of railways in 1856 overtures were made for consolidation with Ely's steam railroad. At this juncture Heman B. Ely suddenly died in Marquette, but the work which he had undertaken was assumed by his brother, Samuel P. Ely. The legislature of 1857 was to distribute the lands granted by congress and it was of vital importance that a person familiar with the situation in every detail should represent Marquette in the assembly. The result was that Peter White ran for the legislature. There was someone else running also somewhere in the peninsula and as far as known he may be running yet for he was not heard from at the polls.

Peter's appearance at Lansing created a sensation. It took him fifteen days to get there. He made the journey on snow shoes from Marquette to Escanaba, took the stage to Fond du Lac and walked the rest of the way to Lansing. Everyone was on the qui vive at Lansing for the representative from Marquette, for they realized the almost insurmountable obstacles which stood in his way. Peter was heartily cheered as he took his seat among them. Something of his reputation had preceded him and he always had an audience in the committee room eager to listen to the story of his experiences in the trackless north. Legislation then was beset with the pitfalls and handicaps that mark it now. There was much wrangling over the distribution of the grant—far more, indeed, than the exigencies of the case demanded—and Peter quickly observed that with the lobbyists out of the way the representatives could readily dispatch in an honorable manner the business for which they had gathered. He made a speech in which he pointed out the unwarranted interference of those who were serving no great constructive interest and who did not have the development of the state at heart and declared that they were "thick as autumnal leaves which strew the brooks in Vallombrosa," a simile so apt and so sonorous as to establish a reputation for erudition instantly. They did not know that Peter the evening previous had begged a learned friend to furnish him some quotation that would fit the particular point he wished to score. Hence Vallombrosa. Peter did good work in the legislature and the grant was carefully distributed. He walked back to Marquette and it was twenty years before he again served the people in a legislative capacity. He was now known as the Honorable Peter White.

CHAPTER XV.

STEAM RAILROAD FINISHED TO THE MINES.

ELY'S steam railroad was finished to the mines in September, 1857. One of Peter White's recollections is rowing out in a row boat some time during the preceding year to inspect the locomotive Sebastopol brought up from Paterson, N. J., as it stood upon the deck of the brig Columbia in Iron Bay. This was the first locomotive to reach the peninsula. It was built by the New Jersey Machine & Locomotive Works, Paterson, N. J., and was designed for a gauge of 4 ft. 10 in., having cylinders 6 ft. 2 in. and drivers of 5 ft. The locomotive weighed 25 tons, and cost $11,000. This locomotive was soon followed by a second, which was brought up on the schooner E. C. Roberts in 1857 and was named C. Donkersley, in honor of the first superintendent of the railway. The carrying capacity of the railway with this motive power was estimated, when all conditions were favorable, at 1,200 tons per day. The conditions obtaining at the time can probably be more graphically conveyed by reprinting an editorial published in the Lake Superior Journal on August 15, 1857, which was two or three weeks before the railroad went into operation.* It is amusing today to think



PETER WHITE IN THE 60'S.

* "The experiment with the light cars on the T rail, of which we spoke last week, works to perfection; indeed we are informed that they run better, even, than on the strap rail, and

that 1,200 tons was ever regarded as an avalanche, but it is a fact that no one identified with the iron industries comprehended the future demand for iron and the enormous consumption destined for it. Indeed the evolution of the world was necessary to beget such comprehension. Industrially the world was pretty young even as late as 1857. The Iron Mountain Railroad issued a big poster on freight rates, a fac-simile of which is produced herewith. It was during this year that Fayette Brown went into the peninsula to assist in developing the iron mines. He was most active and successful. The name of Brown was later to become indissolubly linked with the handling of iron ore on the great lakes.

It was in 1857 that the land office was transferred from Sault Ste. Marie to Marquette and Peter White was made register. A little later he added to his duties that of collector of customs of the port of Marquette, the city being made in that year a port of entry in place of Sault Ste. Marie. It might be supposed that these various offices would keep the young man busy, but Peter White perceiving that there were certain minor cases arising constantly to be adjudicated in the little town, undertook the study of law in order that he might be the better prepared for any emergency that might arise. Paint you no picture of a man sitting at the feet of some learned authority and drinking deep of legal lore. There was neither lawyer nor judge in Marquette then. Rather paint a picture of a young man

more safely. The result of the first week's trial shows a perceptible increase in the amount of ore brought down, and the probabilities are that it will be still more increased next week. There are now twelve sail vessels and one propeller loading and waiting to load with ore, and there is not a pound on the dock except that which comes down from day to day. At this rate it will take about four weeks to load those that are now here, to say nothing of more which may arrive. This is a point at which we did not expect to arrive this season, and hence our repeated request to send along vessels. But it is useless to deny the fact that our present facilities for bringing down ore are insufficient, and our present circumstances with so many vessels waiting, are anything but desirable. But it is an old but true saying, that 'it is always darkest just before the dawn,' so now, our companies are having their greatest difficulty in supplying their vessels, just before the time when the ore can be brought down like an avalanche, at the rate of 1,200 tons per diem, with the present motive power at command. Were it not for this we might apprehend trouble in the future, from the present delays of vessels, but they all understand this, and will undoubtedly be ready to go on with the business again next season, notwithstanding the vexatious delays now. The amount of ore taken out of the mines can only be limited by the number of men employed, so that there is no cause of apprehension on that score. If a sufficient amount of ore was now on the docks, the amount shipped would be at least one-fourth more than it will be as it is, yet we trust that next season will more than make the present loss good. The receipts on the dock, for the week ending Aug. 14th, are per Cleveland I. M. Co., 654 gross tons; Sharon Iron Co., 650 gross tons; total, 1,304 gross tons.

"Shipments during the same time: Cleveland I. M. Co., per Schr. Consuello, 254 gross tons; Prop. Mineral Rock, 106½ gross tons; total, 360½ gross tons. Sharon Iron Co., per Prop. Mineral Rock, 102 gross tons; Schr. Exchange, 429½ gross tons; total, 531½ gross tons; total for the week, 882 gross tons. A portion of this week's receipts is now on board of vessels that are not fully freighted."

studiously reading the standard works of law by the light of a candle and conning them quite thoroughly until he had the great branch of equity at his finger tips. A college of law will teach equity last, but Peter took it first. The pine knot and the tallow dip have taken their place in American fiction because so many characters, famous in American history, have employed them to lay the enduring foundations of their education. Peter White is one of them for the United States Supreme Court later admitted him to practice before it upon the information which he had wrung from the law books in the days when he was pioneering. He later formed the law firm of White & Maynard, but after ten years practice surrendered the entire business to his partner.

On Sept. 29, 1857, the Rev. Henry Safford united in marriage Ellen S. Hewitt and Peter White.

The Cleveland company was the first in the world to adopt the pocket system of loading ore in the construction of the dock. The idea came from the coal fields of Pennsylvania where coal was handled by means of a chute. The Cleveland company built a trestle work upon its dock, and by 1858 had constructed nine or ten pockets with chute attachments. The pockets held only a few tons and were small in comparison with the immense structures of today, but nevertheless they were the forerunner of the present wonderful system of loading iron ore whereby 8,000 to 10,000 tons may be loaded upon a vessel within a few hours. Peter White had his hand in it. He secured the contract to furnish all the pine to be used in the construction of the dock, but Gordon beat him down on figures so that there was absolutely no profit in it. As he was leaving with his contract Gordon called him back and said:

"We'll pay $5 extra per thousand for all the Norway pine you furnish," mentioning the measurement.

"Very well, sir," said Peter.

He did not tell Gordon that he could furnish nothing but Norway pine, as there was not a stick of white pine in the immediate vicinity of Marquette. So the contract was a good thing for him after all.

At this time there came to live in the Harlow family, as a cook, an Indian woman named Angelique, whose story as related is the most tragic in the annals of Lake Superior history. The good God was kind to this woman when He gave her great resistance to suffering and an exhaustless reservoir of physical endurance. She had need of them. She was forest born and inured to privation from her birth. She was free limbed, full grown and was possessed of enormous strength. She seemed indeed to be fashioned to demonstrate to what reaches of suffering the human frame could

IRON MOUNTAIN RAILROAD!

GENERAL REGULATIONS!

All freight received for transportation must be accompa-nied with a memorandum to be signed by the owner, or consigner, giving description of articles, consignment, weight and the Railroad charges to be collected upon delivery according to the freight tariff. Blanks for this purpose will be furnished by the Company. Upon delivery a receipt must be given by the Consignee.

Freight in packages must be distinctly marked with the name of the consignee and place of delivery.

Property shipped in bulk must be loaded and unloaded by the owner or consignee. Cars so loaded must be unloaded and delivered upon the Company's track within six working hours after arrival at their place of destination. TEN DOLLARS will be charged for every 24 hours detention thereafter.

The Company is not responsible for damages occasioned by unavoidable delays, nor for damages from frost or heat to articles affected thereby, nor for articles not suitably packed for transportation.

GUNPOWDER, FRICTION MATCHES,

And combustibles generally, will not be received in the Company's buildings, nor transported except unders pecial contract.

The Company will not become responsible for the transmission of money or valuable papers, manufactures of gold and silver jewelry and the like. None of its agents are authorized to take charge of or receive compensation for carrying property of this description.

Claims for damages upon property transported must be made and settled before its removal by the owner or consignee.

Property for transportation from the way stations where Depot buildings have not been established, is at the owner's risk until received on the cars, and property transported to such stations is at the owner's risk after delivery from the cars.

All standing freight accounts are to be settled weekly.

No trains will be run on Sunday.

FREIGHT TARIFF.

Until further notice this Company will carry freight at the following rates:

GOING EAST.

Iron and iron ore, from Pioneer Furnace and Jackson Mountain to Marquette,	70cts per. ton of 2000 lbs.
From Cleveland Mountain to Marquette,	75cts " " "
From Lake Superior Mountain to Marquette,	77 1-2cts " " "

The cars to be loaded and unloaded by the owners or consignees of the property, and to be delivered upon this Company's track, as provided in the general regulations. For all other freight double the above rates will be charged.

Going West.

For all freight, excepting articles specified below from Marquette to Franklin,		6 cents per 100 lbs.
From Marquette to Duncans Mills,		8 " " "
" " Pioneer Furnace and Jackson Mountain,		9 " " "
" " Cleveland Mountain,		10 " " "
" " Lake Superior Mountain,		11 " " "

For empty barrels, boxes, feathers and the like, double the above rates will be charged. Brick, stone, lime and the like in quantities of 8 tons and upwards, loaded and unloaded by the owners, will be taken at half the above rates. Smaller quantities at a reduction of 25 per cent from the above rates. Brick are reckoned at 4 lbs. each, and stone at 36 lbs. per cubic yard.

Charcoal and all extra bulky articles, machinery and all extra heavy articles will be taken only under special contract.

The following are the rates for Lumber in quantities of 6000 lbs. and upwards at any one time.

From Marquette to Franklin,	75 cts. per 1000 feet.
" " Duncans Mills,	1 00 " " "
" " Pioneer Furnace and Jackson Mountain,	1 25 " " "
" " Cleveland Mountain,	1 50 " " "
" " Lake Superior Mountain,	1 75 " " "

Square timber and saw logs are to be reckoned by the 1000 feet board measure. Timber over 20 feet long will be charged extra according to length. For quantities less than 6000 feet, 25 per cent more than the above rates will be charged.

N. B.---The ton is in all cases to be 2000 lbs.

Invoices amounting to less than 25 cents at regular rates will be charged 25 cents.

Passenger Fares.

From Marquette to Franklin,	15 cents
" " " Duncan's Mills,	30 "
" " " Jackson Mountain and Pioneer Works	45 "
" " " Cleveland Mountain,	60 "
" " " Lake Superior Mountain's	75 "

For Intermediate Distances 3 cents per mile.

Should there be sufficient occasion, a general class car will be run occasionally to and from Marquette for the accommodation of the citizens at half the above rates of fare.

No Free Passes or Tickets will be issued by this Company.

Marquette, Mich., May 1st 1857.

THE OLD IRON MOUNTAIN RAILROAD'S FIRST HAND BILL.

go and still withstand the shock, for it is not conceivable that any other human being could have possibly endured it. Her husband, a Frenchman named Charlie Mott, perished miserably. This woman was actually left on Isle Royale with her husband from July 1, 1845, until the following spring with only half a barrel of flour, six pounds of butter and a few beans as provisions. Her thoughts, her sensations, her struggles, her ruses to cheat hunger, the horror which she felt lest she might awake some day from a delirium to find herself eating her dead husband provide a tale of somber tragedy which is unrelieved by a single ray of light. She lived by snaring rabbits with deadfalls made out of the hair of her head. She was rescued in the spring by the crew of the Algonquin, of which Capt. John McKay, the father of Capt. George P. McKay, the present treasurer of the Lake Carriers' Association, was master.*

* Angelique later gave the following graphic account of her winter on Isle Royale, which is submitted for the tremendous force of the narrative:

"When I and my husband Charlie Mott were first married we lived at La Pointe. Mr. Douglas, Mr. Barnard and some other 'big bugs' from Detroit had come up there in the schooner Algonquin, looking for copper. From La Pointe Charlie and I went over with them, on their invitation, to Isle Royale. After landing with the rest I wandered a long way on the beach until I saw something shining in the water. It was a piece of mass copper. When I told the Algonquin people of it they were very glad and determined at once to locate it. They said if Charlie and I would occupy it for them Charlie should have $25 a month and I $5 a month to cook for him. Having agreed to the bargain we returned to the Sault to lay in a good supply of provisions. There I first met Mendenhall, the man who brought us into all this trouble. He said there was no need of carrying provisions so far up the lake and at so heavy an expense as he had plenty of provisions at La Pointe. When we got to La Pointe we found that this was not so. All we could get was a half barrel of flour (which we had to borrow from the mission), six pounds of butter that smelt badly and was white like lard, and a few beans. I didn't want to go to the island until we had something more to live on, and I told Charlie so, but Mendenhall over-persuaded him. He solemnly promised him two things: First, that he would send a bateau with provisions in a few weeks; and then, at the end of three months, he would be sure to come himself and take us away. So, very much against my will, we went to Isle Royale on the first of July. Having a bark canoe and a net, for a while we lived on fish, but one day about the end of summer a storm came and we lost our canoe; and soon our net was broken and good for nothing also. Oh, how we watched and watched and watched but no bateau ever came to supply us with food; no vessel ever came to take us away; neither Mendenhall's nor any other. When at last we found that we had been deserted and that we would have to spend the whole winter on the island, and that there would be no getting away until spring, I tell you such a thought was hard to bear indeed. Our flour and butter and beans were gone. We couldn't catch any more fish. Nothing else seemed left to us but sickness, starvation and death itself. All we could do was to eat bark and roots and bitter berries that only seemed to make the hunger worse. Oh, sir, hunger is an awful thing. It eats you up so inside, and you feel so all gone, as if you must go crazy. If you could only see the holes I made around the cabin in digging for something to eat you would think it must have been some wild beast. Oh God, what I suffered there that winter from that terrible hunger, grace help me. I only wonder how I ever lived it through.

"Five days before Christmas (for you may be sure we kept account of every day) everything was gone. There was not so much as a single bean. The snow had come down thick and heavy. It was bitter, bitter cold and everything was frozen as hard as a stone. We hadn't any snow shoes. We couldn't dig any roots; we drew our belts tighter and tighter; but it was no use; you can't cheat hunger; you can't fill up that inward craving that gnaws within you like a wolf.

It is strange that this tale, so pitiless, so absolutely unrelieved in its cruelty, has never found its way into fiction. The mind of the novelist has depicted no suffering to equal it.

The year 1857 was one of panic. When iron's down it's down. When things are generally flat iron is the flattest of them all—and things were pretty generally flat in 1857. Money was not to be had at all. It apparently did not exist. The iron companies were hard put to it to get working capital and keep their men in good humor. It was at this time that the genius of W. J. Gordon came into play. He devised a medium of exchange which later came to be known as iron money. This form of exchange was in the shape of neatly-engraved and printed drafts for small denominations

"Charlie suffered from it even worse than I did. As he grew weaker and weaker he lost all heart and courage. Then fever set in; it grew higher and higher until at last he went clear out of his head. One day he sprang up and seized his butcher knife and began to sharpen it on a whetstone. 'He was tired of being hungry,' he said, 'he would kill a sheep—something to eat he must have.' And then he glared at me as if he thought nobody could read his purpose but himself. I saw that I was the sheep he intended to kill and eat. All day, and all night long I watched him and kept my eyes on him, not daring to sleep, and expecting him to spring upon me at any moment; but at last I managed to wrest the knife from him and that danger was over. After the fever fits were gone and he came to himself, he was as kind as ever; and I never thought of telling him what a dreadful thing he had tried to do. I tried hard not to have him see me cry as I sat behind him, but sometimes I could not help it, as I thought of our hard lot, and saw him sink away and dry up until there was nothing left of him but skin and bones. At last he died so easily that I couldn't tell just when the breath did leave his body.

"This was another big trouble. Now that Charlie was dead what could I do with him? I washed him and laid him out but I had no coffin for him. How could I bury him when all around it was either rock or ground frozen as hard as a rock? And I could not bear to throw him out into the snow. For three days I remained with him in the hut, and it seemed almost like company to me, but I was afraid that if I continued to keep up the fire he would spoil. The only thing I could do was to leave him in the hut where I could sometimes see him, and go off and build a lodge for myself and take my fire with me. Having sprained my arm in nursing and lifting Charlie this was very hard work, but I did it at last.

"Oh that fire, you don't know what company it was. It seemed alive just like a person with you, as if it could almost talk, and many a time, but for its bright and cheerful blaze that put some spirits in me, I think I would have just died. One time I made too big a fire and almost burned myself out, but I had plenty of snow handy and so saved what I had built with so much labor and took better care for the future.

"Then came another big trouble—ugh—what a trouble it was—the worst trouble of all. You ask me if I wasn't afraid when thus left alone on that island. Not of the things you speak of. Sometimes it would be so light in the north, and even away up overhead like a second sunset, that the night seemed turned into day; but I was used to the dancing spirits and was not afraid of them. I was not afraid of the Mackee Monedo or Bad Spirit, for I had been brought up better at the mission than to believe all the stories that the Indians told about him. I believed that there was a Christ and that He would carry me through if I prayed to Him. But the thing that most of all I was afraid of, and that I had to pray the hardest against was this: Sometimes I was so hungry, so very hungry, and the hunger raged so in my veins that I was tempted, O, how terribly was I tempted to take Charlie and make soup of him. I knew it was wrong; I felt it was wrong; I didn't want to do it, but some day the fever might come on me as it did on him, and when I came to my senses I might find myself in the very act of eating him up. Thank God, whatever else I suffered I was spared that; but I tell you of all the other things that was the thing of which I was the most afraid, and against which I prayed the most and fought the hardest.

"When the dreadful thought came over me, or I wished to die, and die quick, rather than suffer any longer, and I could do nothing else, then I would pray; and it always seemed

upon the treasurer of the home office of the iron companies, issued by the mining agents in payment for labor and material. These drafts bore a general resemblance to ordinary paper currency. The banks accepted them as readily as they accepted government currency. Why not? Surely the United States government had no greater reserve for its paper than had these mining drafts. The reserve consisted of mountains of precious ore. When the banks had accumulated a hundred or a thousand dollars worth of the drafts they were sorted out according to the companies which issued them and presented to the home office, when a ninety-days' draft, interest added, would be given for them. This iron money helped to relieve a stringency which otherwise would have stalled the iron mining industry of the peninsula. Owing to the restricted communication between Lake Superior and the lower lakes—none whatever while the boats were not running

to me after praying hard something would turn up, or I would think of something that I had not thought of before and have new strength given me to fight it out still longer. One time in particular I remember, not long after Charlie's death, and when things were at their very worst. For more than a week I had had nothing to eat but bark, and how I prayed that night that the good God would give me something to eat, lest the ever increasing temptation would come over me at last. The next morning when I opened the door I noticed for the first time some rabbit tracks. It almost took away my breath and made my blood run through my veins like fire. In a moment I had torn a lock of hair out of my head and was plaiting strands to make a snare for them. As I set it I prayed that I might catch a fat one and catch him quick. That very day I caught one, and so raging hungry was I that I tore off his skin and ate him up raw. It was nearly a week before I caught another, and so it was often for weeks together. The thing seemed so very strange to me that though I had torn half the hair out of my head to make snares never once during the whole winter did I catch two rabbits at one time.

"Oh how heavily did the time hang upon me. It seemed as if the old moon would never wear out and the new one never come. At first I tried to sleep all that I could but after a while I got into such a state of mind and body that I could scarcely get any sleep night or day. When I sat still for an hour or two my limbs were so stiff and dried up that it was almost impossible for me to move them at all; so at last, like a bear in a cage, I found myself walking all the time. It was easier to walk than to do anything else. When I could do nothing else to relieve my hunger I would take a pinch of salt. Early in March I found a canoe that had been cast ashore and which I mended and made fit for use. Part of the sail I cut up and made the strips into a net. Soon the little birds began to come and then I knew that spring was coming in good earnest. God indeed had heard my prayer and I felt that I was saved. Once more I could see my mother.

"One morning in May I had good luck fishing and caught no less than four mullets at one time. Just as I was cooking them for breakfast I heard a gun, and I fell back almost fainting. Then I heard another gun and I started to run down to the landing but my knees gave way and I sank to the ground. Another gun—and I was off to the boat in time to meet the crew when they came ashore. The very first man that landed was Mendenhall and he put up his hand to shake hands with me which I did. 'Where is Charlie,' said he. I told him he was asleep. He might go up to the hut and see for himself. Then they all ran off together. When Mendenhall went into the hut he saw that Charlie was dead. The men took off Charlie's clothes and shoes and saw plain enough that I had not killed him but that he had died of starvation. When I came up Mendenhall began to cry and to try to explain things. He said that 'he had sent off a bateau with provisions and didn't see why they didn't get to us.' But the boys told me it was all a lie. I was too glad to get back to my mother to do anything. I thought his own conscience ought to punish him more than I could do."

Angelique died at Sault Ste. Marie in 1874. It is related of her that once she made a wager with a Frenchman that she could carry a barrel of pork to the top of an adjoining hill and back. She won it with ease, and upon her return volunteered to carry the barrel up again with the Frenchman on top of it.

—the iron companies could not get money with which to pay their labor, so they had to give paper of some sort. The drafts were signed by the mining agents as issued and were negotiable in the stores for general merchandise. This conception on the part of Mr. Gordon was really a stroke of genius for it enabled the companies to be prompt in paying their workmen. Some of the miners were an unreasoning lot and once struck because a boat which had just arrived had not brought currency with it, it being absolutely useless for the mining agent to explain that the particular boat had not connected with the Cleveland steamer.*

In 1857 quite a settlement had grown up about the Jackson mine and it was decided to give it a name. A council was held with the Ojibwa Indians and the name Negaunee was chosen, which signifies in their language, the first, or pioneer. It was quite appropriate, as the first mine was opened there and the first furnace, the Pioneer, established there. The following year the growing town about the Cleveland mine demanded a name. The citizens appealed to Samuel P. Ely, who in turn appealed to Peter White.

"The ridge of land upon which the Cleveland mine is located," quoth Peter White, "is the highest ground between Lake Superior and Lake Michigan. It is the divide where one may see the waters of the Carp flowing into Lake Superior and the waters of the Escanaba flowing into Lake Michigan. Ojibwa for an altitude of this character is Ishpeming."

"Let's call it Ishpeming," exclaimed Ely, "it is a beautiful word."

"It also means Heaven in an abstract sense," added Peter.

"That's better than ever," replied Ely.

And so the town was christened Ishpeming.

* Iron money remained in circulation on the peninsula for a number of years, or to be exact, from 1857 to 1872. This form of exchange was suspended when there was no longer occasion to employ it. The issue ceased in 1872 because the railroads had then penetrated the country and actual currency could readily be obtained. In 1874 Col. Wm. A. Gavett was sent as a special agent to the treasury department from Washington to ascertain the volume of circulation that iron money had obtained in the peninsula and to assess and collect a retroactive tax of 10 per cent. on each bill for every time it had been paid out. Some of the mines had put millions of this money in circulation. Gavett's figures on the amount of iron money circulated in the entire peninsula during these years made a total of $100,000,000, and the tax would therefore amount to $10,000,000, distributed among the various iron companies. It must be understood that while a great deal of the iron money was even then in actual circulation, none of it was being issued by the iron companies. Peter White went immediately to Washington, and with the aid of Zachary Chandler, obtained the passage of a relief bill. Obviously had such a retroactive tax been levied none of the ore companies could have stood the blow.

CHAPTER XVI.

PIG IRON MANUFACTURE IN THE PENINSULA.

NO sketch of the Lake Superior country would be complete without reference to the iron making industry as distinguished from ore mining. As a merchant dealing in pig iron Peter White made money; but when he invested his little capital in enterprises for the manufacture of pig iron, he like all the rest, lost. The time was not ripe for iron making in the peninsula. There was no consuming population within the limits of its natural market.



L. D. HARVEY IN 1856.

The first pig iron produced in the Lake Superior region was made in 1858 by Stephen R. Gay, who leased the forge of the Collins Iron Co., and converted it in two days at an expense of $2 into a miniature blast furnace. The forge of the Collins Iron Co. was the third to be established in the Lake Superior country, having been built in 1854, by Edward K. Collins, the owner of the famous Collins Line of steamers then plying between New York and Liverpool, Charles A. Trowbridge, of Detroit, Robert J. Graveraet, of Marquette, and others. The two which had preceded it were the forges of the Jackson and Marquette iron companies as related in the prologue of this story. The pig iron produced by Mr. Gay was, of course, purely experimental. The first blast furnace in the Lake Superior region was built by the Pioneer Iron Co. at what is now the city of Negaunee.* It

*The following account of the building of the first blast furnace in the peninsula and the discovery of hematite ore was written for this book by L. D. Harvey, who was the practical man at the Pioneer furnace. It is a chronicle of extreme importance. Mr. Harvey is still living at Harvey, Mich., near Marquette.

D. C. Whitwood, a schoolmate of my father's, had moved to Detroit, Mich., in 1848, but

was called the Pioneer furnace. Work upon the furnace was begun in June, 1857, and was finished in February, 1858. Mr. E. C. Hungerford was the agent and Stephen R. Gay superintendent. The circular issued to stockholders of this company at the time of its formation called attention to the quality of iron made from Lake Superior ores in the little Catalan forges. It will

his mother and sister remained on the old homestead and he looked after their interests and he spent the winter of 1857 at the old homestead. He was C. T. Harvey's supply agent in building the Sault. Ste. Mary's canal in 1853-4. In 1857 C. T. Harvey organized the Pioneer Iron Co., the furnace to be built where Negaunee City now stands. The place was then a dense wilderness. In February, 1857, D. C. Whitwood came to me at the Berkshire Iron Co. plant in West Stockbridge, Mass., where I was employed as master machinist over the furnace and three ore beds. He told me that there would be two men from Lake Superior the last of March or the first of April looking over the furnaces about there and to find men to go to Lake Superior to build one or two furnaces. About April 1 two men came into the furnace inquiring for me and they were directed to the shop where I was at work and wanted to know if this was Lorenzo D. Harvey. I told them yes. Then they introduced themselves as Charles T. Harvey and Edward C. Hungerford of Lake Superior and that they had formed a company to build a charcoal blast furnace there known as the Pioneer Iron Co., and that I had been recommended by D. C. Whitwood as the man they wanted to build and run it. They wanted to look over the furnace and other furnaces there. In the meantime I had introduced S. R. Gay to D. C. Whitwood and he told Mr. Gay what an opening there was out there and that the Collinsville forge for making bloom iron was lying idle and had been for the last year, and that he was acquainted with the parties that controlled the property, a Mr. Trowbridge of Detroit, and there should be no trouble in making almost any arrangement to run it. And Mr. Gay was very much taken up with the prospect and wanted to see the two men from Lake Superior when they came. In the meantime I had told Mr. Gay that if I arranged to go to Lake Superior I would not go there alone to put up a furnace a couple of thousand miles from civilization and if he would go with me and see that all material was got to my hand I might arrange to go and build it. With that and the prospect of the Collinsville forge he was willing to take the chances with me, provided we could make satisfactory arrangements.

I wish to say just here that Mr. Gay was the agent of the Berkshire Iron Co. and I was employed by him. About that time the company changed hands, but Mr. Gay could have continued under the change if he preferred to, but with the prospect of doing better he preferred to make the change in case all went satisfactory. As I have said before, when Mr. C. T. Harvey and E. C. Hungerford came and introduced themselves and I found out what they wanted I soon found Mr. Gay and introduced them, then after they explained to him what they were after, we looked over the Berkshire Iron Works. But that was a hard coal furnace. What they wanted to see was a charcoal furnace. We told them there were three, the Richmount, Van Dusenville, Lennox. They then wanted to see them, so we soon had a livery rig and on the way to Richmount furnace. After looking that over they wanted to know how much iron it was making every twenty-four hours. When told that seven tons was the largest day's work it had ever made, they were somewhat taken back, as they were looking for ten or twelve tons per day. From there we went to the Van Dusenville. They were making seven to eight tons per day and that was considered a good day's work at that time. With 35 to 40 per cent ore, about three tons of ore to the ton of iron, with 35 to 40-foot stack and two 2-in. tuyeres and one and a half pounds blast that was all they thought a charcoal furnace could stand then. On our way home they told us everything, told how rich the ore was, 65 to 70 per cent, and the splendid birch and maple timber there, and that they had contracted for the chips in the Jackson mine for all the ore they wanted already broken for the furnace at one dollar per ton of iron made and they wanted to put up something that could make 20 tons a day or more.

Mr. Gay and myself talked the matter over. Taking the rich ore and birch and maple timber, we concluded that we would be safe in recommending two stacks of ten tons each. We laid it before them. They consulted each other about five minutes and came in and wanted to know if we were ready to contract to go to Lake Superior to build the furnaces, and provide suitable help to run them. This was about supper time. I told them not until I had consulted

be understood that all of the first iron made in the peninsula was what is known as blooms. This is a form of wrought iron made in open fire by charcoal and brought into shape under the trip hammer. Iron drawn from

my wife. So we adjourned for supper to meet at Mr. Gay's house at eight o'clock. They went to the hotel. After getting my supper and consulting my wife on the subject her answer was go at once. Then I went to Mr. Gay's house. He met me at the door feeling good. "What is the word," he said. "Go if they will pay enough." We soon agreed on the price; $1,000 a year and all expense there and back, and at the appointed time we all met. After a few minutes Mr. C. T. Harvey turned to us and said, "What conclusion have you come to?" Mr. Gay said, "We have made up our minds to go if all can agree on terms." Mr. Harvey asked, "What are your terms?" It was in writing, signed by both of us. I stepped to the table and gave it to Mr. C. T. Harvey. He looked it over and gave it to Mr. Gay and said, "Will you put that in writing and give me a copy?" When the contract was drawn and signed, then the manner of building was discussed. We told them that the two stacks would be ample for 20 tons per day. They said that was satisfactory. Then they wanted to know if there could be a bank half the height of the stack where they wanted to locate. The answer was any height, so we told them we could have plans drawn with that understanding. Then the style of engine and blowers came. We showed them the drawing of the blowers in the Berkshire Iron Works made at Cold Spring on the Hudson river. Then they said, "We will depend upon you for all necessaries, engine, blowers, hot blast, everything to complete the works except boilers." Those were lying at Marquette, that was used in the Marquette forge, and that settled everything. Then the time for starting was arranged; we were to be at Detroit by May 20 to take the first boat. As soon as we got the drawings of the furnace we went to Cold Spring and contracted for engine, blowers, hot blast and all necessary pipes to complete the two stacks. About May 20 we left Westockbridge, Mass., for Detroit with twenty-two men and families and arrived at Detroit about May 22. The steamer Gilmore left the day before and we lay there five days before the next boat, the General Taylor, came. In our five days at Detroit we went to Wyandotte furnace to see if there was any improvement in making iron from the old eastern style. There we found them in the same old rut. We also wanted to find how they used the Lake Superior ore. They did not use it clear; they had found what they called Blackband ore that they used about one-quarter. The founder said that the Lake Superior hard ore was too rich to use clear, that it did not furnish any cinders to make the furnace work pliable and economical. On the first trip of the General Taylor we set sail for Lake Superior about six o'clock in the afternoon May 27, 1857, the first steamboat I was ever on. She went slow but safe, used wood as fuel. We landed at the Sault the second day about noon, had a good run for the afternoon, but towards night we saw ice ahead. We went through one field into another all right. We got opposite of Grand Island the next night and struck another field of ice. We could not make one foot of headway until after midnight. Then the captain shut off steam and lay there until eight o'clock the next morning. Then the ice parted some and the captain made for an open channel and by hard work we landed at Marquette about eleven o'clock, June 3, 1857, and I was a happy man. I said then I would never go on that trip again and I never have, for I am no water bird. After landing we took dinner, then got a one-horse rig and four of us got in for Collinsville; before we had got ten rods on Main street the horse gave out. The sand was knee deep; all got out and pushed the rig up to Washington street and we got in and rode through the pines up to about where Ridge street now crosses Third street. Then we found a passable road.

We landed at Collinsville, found that there had been some money spent there and everything appeared in good working order, and Mr. Gay said as soon as he could be spared he would try his hand at it, making bloom iron. We then returned to Marquette and in the evening met Mr. C. T. Harvey and Mr. Hungerford and arranged to make a start the next morning for the Pioneer furnace location twelve miles west of Marquette by plank road and mule team, the only way of getting there then. We got there before noon, took dinner at the Jackson Boarding House, then started for the place where the furnace was to be built. We looked it over and found the ground would suit our plans, water handy for boilers and stack. The next question was, "Where are the stones coming from for the bank wall and stack?" Mr.

these blooms had undergone various tests but by far the most significant test of its breaking strength was that recorded by D. B. Martin, engineer in

Hungerford said that there was any amount of rock just above the Jackson mine, a quarter of a mile to haul. I told him that I wanted to see it. We all went up and found the rock. The question was how to haul it. They said they could arrange to use the plank road by building a train track from it to the furnace, nearly a quarter of a mile farther. That made a haul about three-quarters of a mile. That settled the stone question. On our way up we stopped at the Jackson mine and saw the chips ore contracted for. Not being acquainted with the ore it looked all right. It was in the dump where coarse ore had been broken up in hand pieces. I will have more to say further on.

From there we took short cut back of the Jackson mine straight to the furnace location. About half way through the woods I ran close to the roots of a large maple tree that had blown over. I stopped a moment and looked at it. Mr. Gay was some ways ahead of me. I called to him, "See here, Gay; here is some of the old Salisbury hematite ore." They all came back. Harvey and Hungerford said, "Oh, that is nothing but rotten ore," and Mr. Hungerford kicked some of it with his foot, but that did not stop me and I shall have more to say again about it. We kept on to the furnace location and selected a place to pitch our shanties and then returned to Marquette to prepare for and move the next morning with lumber, nails, tools, bread, blankets and provisions. We loaded two mule carts with men and supplies and at the gorge, about half way, we loaded four more carts with lumber at Lewis Switzer's mill and got to the location about eleven o'clock. With men and axes we commenced clearing for our shanties and by noon we had enough cleared for all buildings. After eating lunch of hard tack we began building shanties and by night we had the roof on two and two more under way. We all stayed at the Jackson boarding house that night. In the morning I left the carpenter to lay floors and finish doors and windows. At about ten o'clock two families came up with stoves and furniture and at noon the two shanties were smoking. I then took the laborers to clear a road to the furnace location and also the ground there. The third day I broke ground and the earth was removed ready for the back walls, as soon as we could procure stone and derrick to handle them. The steam railroad was being graded between our shanties and the furnace, the timber had been cut just wide enough to do the grading, and on the third day after supper Joseph Luther and myself took a walk up the railroad to see how near the grading was to our location. We had not gone a thousand feet before we discovered to the north a ledge of rock fifteen to twenty feet high. We soon made an investigation of it and found it just what we wanted to build all walls and stacks. I soon returned and reported to Mr. Gay and it was not long before Mr. Gay and myself were back there again and saw it was as I had reported. We then went to the furnace location and found it was less than a quarter of a mile from the furnace and independent of plank road and down grade. On the fourth day we had a road cut and cleared to the quarry and ready for drilling and blasting, The train track was laid to the quarry, and derricks were erected at furnace and quarry for handling large stones. From that time on every part of construction was pushed with all speed possible, even for cutting wood for charcoal. The only delay was the steam railroad did not get through to the furnace until about the middle of August to deliver our bricks and heavy freight, but she brought us five carload of brick—the first freight she ever left Marquette with. As the rail was not laid a hundred feet beyond where the brick was unloaded, after that everything was at our hand. During the fall after the railroad was graded past the Jackson mine, I happened to go up the track and a little east of the mine a small cut was made through a vein of hematite ore as good as I ever saw. And that same vein has since proved to be a large mine.

A sketch of our boarding house: The fare consisted of corned beef, salt pork, hard tack and potatoes. Our cook was a salt water sailor from Connecticut and would not bake bread, nor cake of any kind, only what he could make out of hard tack. He would make puddings and dried apples for sauce and if any one complained he was ready to fight. I have seen plates flying straight across the dining room, for he was no respecter of persons. But it lasted only about two months, for Mr. Gay sent east after his colored cook. Then things went very well for a couple of months. But after Mr. Hungerford got Allen Whiting and his wife to

chief of the United States navy, to J. C. Dobbin, then secretary of the navy. His report was brief as follows:

"A piece was drawn down to one-half inch diameter (round), made into

take the boarding house, everything that a laboring man could ask for was provided—clean and wholesome beds and rooms kept in first-class order. During the summer I was prevailed on by Mr. Hungerford to bring my family to Marquette. After consulting my wife she was willing to come providing a house could be had near my work. Mr. Hungerford said that he would see there was one built in time, but it was not finished until about Christmas. My family arrived the fore part of September and I rented a small house on Washington street. Then I soon made the change. After I had got the furnace under way, so that my mind was on the machinery, I had the two boilers from Marquette brought up and found it would need the third one. I made plans of the two old boilers and for the new one with smoke stack, made drawings for steam dome and all necessary steam pipes and fixtures to set and complete the boilers and sent them to Detroit to be made and delivered as soon as possible. They were to send a man to put them up when we were ready for them, also the Cold Spring Co. was to send a man to put up the engines and blowers. It was necessary to bring all bank walls and both stacks up on a level with the boiler foundation in order to turn the three arches under the hot blast and boiler. As navigation would close about Nov. 20, it would be impossible to bring those men here and back by boat, as I could not be ready for them before Christmas or New Years. The only way was, then, to bring them overland. The nearest railroad to the upper peninsula was at Oshkosh, Wis., and a tough journey for eastern men to undertake, and besides expensive. Mr. C. T. Harvey's headquarters were in Marquette on other matters aside from building the furnace. About the first of November he sent up word to have Mr. Gay come down the next day to arrange about bringing those two men. I told him before leaving that we could not get ready to set either engine or boiler before the middle of January. He reported to Mr. C. T. Harvey and on his own responsibility said that there was no need of either of those men's services, as L. D. Harvey could put the machinery up as well as any men imported at an expense of four or five hundred dollars. Mr. Harvey turned to Mr. Gay and asked: "Is he machinist enough to handle the machinery?" Mr. Gay then said that he had worked for him at the Berkshire Iron Furnace three years and seven months and that he had never had a job of any kind to do that he could not do and, moreover, he had put in a set of blowers at the Berkshire furnace built at Cold Spring, where the Pioneer engines and blowers were built, and nothing could work better than they always had. Mr. C. T. Harvey asked: "How is it about the guarantee of their machinery doing the work if put up by another man than their own?" Mr. Gay said, "We will take the risk if L. D. Harvey will undertake it." C. T. Harvey said: "Send him down in the morning." Mr. Gay returned and reported what he had done and turned to me. "Will you undertake it?" I said to Mr. Gay: "Did you ever ask me to do any job in the last three years with you at the Berkshire Iron Works that I could not do?" As my family was living at Marquette I was glad to take the trip. I reported to Mr. Harvey. He soon broached the subject. He said: "Is it not too big an undertaking for you without more skilled workmen than you have?" "No, sir, that machinery is made to go together and no man can put it otherwise. All there is is to get it in line and a solid foundation. All the trouble will be in making the steam pipe connections, and I think I can overcome that as well as the men from below could. At all events I will run the risk." Mr. C. T. Harvey replied: "That settles one important question and is a great relief to me and I will see that you are rewarded for your extra energies in pushing the works to a completion." I returned to the works and made a list of tools, gas pipe, packing iron to complete the work and they arrived in good time. Then I had everything my own way and as fast as the works would receive any part of the machinery or boilers, hot blast, it was shoved in place ready for the next, until it was all in place. I had no trouble in finding men to help. There were men that knew nothing about machinery only as I told them and helped them. It took about all of my time looking after the carpenters and masons. I was told that it did not thaw from the first of November until the first of May, and when I plowed through the ice in Marquette Bay on June 3, 1857, I began to think there was something in it. But about Jan. 5, 1858, we had a January thaw that kept us busy all one day to clean the snow from our mason work that was not finished and in April the snow all went off about the clearings, but that winter we had about 5 ft. of snow.

a chain link, tested in the chain proving machine and broke at 75½ tons or 169,120 pounds."

The force of this test can be appreciated when it is known that the

Just before navigation closed we imported a founder, Daniel Woodruff, from Bennington, Vt., a man that was brought up in a furnace, recommended by Mr. Gillison, our boss fire brick mason, from the same place, and he had the hearth and tuyeres placed after the style of those days—two tuyeres, brick dam and temp, and I was on time with hot blast engine, boilers and hoist. About the middle of April I fired up the boilers to test the steam pipes and engine and everything went as smooth as though it had been running a year, except that a few steam joints had to be tightened up, not two hours' work. When I got them all right I let her go. The engine-room was filled with men and women, the whistle was blown for ten minutes after I had tested everything. She was shut down until a day or two before starting the furnace, then she was started. Everything was ready for the blast. The builders of the engines and Mr. C. T. Harvey were notified that every part of the machinery was up and had been tested and every part worked like clock-work, and it was a big load off of my shoulders to see it start off without a hitch. It was a big undertaking without a machine shop nearer than Detroit. When the six-inch cast iron steam pipe came together it was a foot too long owing to a bed of quick-sand I struck in setting the engine foundation. That I cut off and a wrought iron flange shrunk on in place of the cast iron one cut off. But notwithstanding mishaps all was on time with other parts of construction work. About April 20 we were ready to make a start. We had a kiln of ore. In those days all ore must be roasted before going into the furnace. I will explain the roasting process. It consists of a layer of logs on the ground, say thirty feet square, then a layer of ore a foot thick, then a layer of coal braze six inches thick, then another layer of ore, so on as high as handy to throw up. By drawing each layer in, it would be half the size on top of the first layer; then settling fire to it, it would burn a week. The ore was broken up to the size of butternuts before using it. This will seem strange to the manufacturers of iron at the present day. Starting to make the first iron, the stack was filled in the morning about half full with charcoal, the balance with light charges of ore and flux and fired at the hearth. Now Mr. Gay said to me, "Give us wind and water, and Woodruff and myself will make the iron." "All right, you shall have all you want," said I, as I knew that the engine and pumps were capable of doing twice the amount of work. The furnace took the blast all right to all appearance and everything looked favorable for a good start until the next morning when the ore began to come into the hearth. It did not separate, iron and cinders, but all came together. It was what we call stog. Then the lime was increased, but it did not overcome. The ore was taken off and changed for two days and night. Finally she began to work a little better, but Mr. Gay and Woodruff were about played out for sleep. The second night about twelve o'clock they came to me and said they must have some rest. I told them both to go to their bunks and I would take a man and look after it until morning, but if she took a turn backwards I would call them. But it improved slowly and about four o'clock in the morning I saw that she had separated and cinders were at the tuyeres, and soon made a pig bed, of a dozen pigs and let the hearth fill with iron and cinders up to the tuyeres. Then I tapped her and got the first five pigs of iron made on the upper peninsula. At six o'clock the whistle blew and out came Mr. Gay and Woodruff. "Well, how is she?" they asked. I pointed to the five pigs. They bothed laughed and said they knew she was all right or they would not have left her. If Mr. Gay is entitled to the credit of the first iron made, I am also, as we both came to build and start her. But under the circumstances I claim the credit, though it may not belong to me. We will let the readers decide. From that time on she never worked well. Some days she would warm up and appear as though she was all right. The next day she would be cold and black, the iron would not separate from the cinders. Then she would take a turn and so on for about ten days. At last the foundryman notified me that he wanted to be relieved from all responsibility of making iron from Lake Superior ore and lime. He said that no man could. As we had a small stock of coal on hand we made up our minds to blow her out and relieve Woodruff and let our coal accumulate, and in the meantime try some other man and do the necessary repairs to the furnace ready for another start. As soon as we concluded to blow out and try another foundryman, Mr. Gay sent a letter to Joseph Harris, the man that was foundryman at the Wyandotte furnace, below Detroit, where we made a stop on our way to

British admiralty proof of chain cable at that time, of which the round iron is seven-eighths of an inch in diameter, was fourteen tons, and the American proof chain of the same dimensions was fifteen tons. The piece

Lake Superior. This was about the opening of navigation. We made him an offer and he was on hand about the first of June, 1858. The first failure of the furnace in not starting off any better was not all the fault of the foundryman. The most fault was in the chip ore after a close examination. As I have said before, the company had a contract with the Jackson Iron Co. for the chips of their mine, that is, the small pieces that could not be picked up by hand were shoveled into carts and dumped outside the mine. It will be perfectly plain to any man that the good ore must mix with the rock and Jasper that they came in contact with in mining the ore. Such pieces of rock and Jasper that were large enough to handle were thrown into carts and what was called chips was shoveled ore, Jasper, and rock all together. I do not think the Jackson mine was an underground mine at that time. It was an open pit in the side hill where the train track went into it on a level with the main track. The Jasper and rock was responsible for a part of the first block up and a part in the new hearth all being built in the winter and not being thoroughly dried before starting, the Jasper and rock referred to was near one-quarter of the chips used and it took twice the amount of coal to melt them as it did the pure ore. After blowing out we concluded to make the next start on a part of the rotten hematite ore as it was called in those days. Between the time of blowing out and starting the second time we had about fifty tons mined and hauled to the furnace and as soon as Mr. Harris arrived, we were ready to start, after he had arranged his tuyeres and made some small changes. When he came he said that we would have some trouble with clear hard ore, as they had at Wyandotte until they got a mixture of what they called the black band ore. He was formerly from the east near the old Salisbury ore district and when we showed him the fifty tons of hematite ore he exclaimed: "Why, where did you get that? Why, that looks like our eastern ore." It was some time before he could believe it was here, as he had been told that there was no other on Lake Superior but the hard ledge ore. It was but a short distance to the railroad cut where I found it the year before. "So come," said I, "and I will convince you that it is not imported ore." When he saw it he said, "I am not afraid of making a start with one-half of it with hard ore." When all was ready he had the stack filled and lightly charged with the mixture of ores and lime and fired and in six hours the blast was put on and she started off very well and made a cast the next morning. But it was a week or more before he could handle her, but made some four to six tons a day. After she got warmed up and mcreased the hematite ore, she made what she was built for and more. The number of tons she made I do not remember. Now our founder was an eastern man and would not submit to the first improvement from the old style of tymp or dam. Twice a week we had to shut down about two hours to put in a new tymp and dam and stop the stack back with clay in order to put in the fire brick. I got tired of it and told the founder that I would put in a water tymp and dam. He said I would chill the furnace up with them. "I will run the risk of it," I told him. After fooling with the old style of tymp about two months, I made a pattern for a tymp dam and dust plate and bent the gas pipe to fit and cast them in the pig bed, and the next tymp was a water one. The furnace took a turn about that time and it was all laid to the water tymp. Harris came to me and said that it had chilled the furnace. I said "Shut off the water for a spell and let her warm up," and after a couple of hours the tuyeres was all right again, and the next day he said it was the nicest thing he ever saw for a tymp and when the next dam was wanted we went the water dam and dust plate. The next day we stopped to put in the old style tymp and dam and we were from one to two tons short of iron. They were a new thing for a charcoal furnace, but all hard coal furnaces used them and I could not see why they could not be used on a charcoal one. At all events I was bound to try them and [illegible] furnaces built on Lake Superior [illegible] made on coal pits, but during the summer of 1858 and [illegible] cast iron, cone shaped, [illegible] It worked very well at first. But [illegible] together gave out and I put [illegible] one of wrought [illegible] was some two or three years, but the [illegible] respects in making

of iron tested by Chief Engineer Martin, therefore, was more than five times the proof test required of chain link of nearly twice the diameter. Think of the sensation which Chief Engineer Martin must have received.

coal. They held thirty cords of wood. They were emptied twice a month, making from twelve to thirteen hundred bushels each time. In June, 1859, I left the Pioneer furnace and moved to Marquette to take charge of the building of the Northern furnace, four miles south of Marquette, and a man by the name of Spillman took charge of the Pioneer furnace. He gradually decreased the chip ore and added the hematite. His term was short and Mr. J. B. Case took his place in 1860. He was a practical furnace man and he stopped using the chips and opened a mine and mined his entire stock of ore. It was on the Jackson Company's land. I think the royalty was the same as when the chips were used.

This is a true statement of my labor and experience from June, 1857, to June, 1859, and I think I am entitled to the credit of building the first furnace on Lake Superior and making the first pig iron; also the finding and using the first hematite ore, as it is the only ore that is sought for and used by all manufacturers of pig iron at the present day.

In the winter of 1859 C. T. Harvey organized the Northern Michigan Iron Co., to be located at the mouth of the Chocolay river, four miles south of Marquette. I was engaged to build and superintend the work. The engines and blowers were built at Cold Spring, N. Y., a duplicate of the Pioneer Iron Co.'s machinery except much larger, as the furnace was to be a hard coal one. It was not finished that fall. The propeller Manhattan that was to bring out last stone and brick went ashore near Grand Marais, but a duplicate of her cargo came the next spring. She was finished during the summer and a stock of coal also shipped. Our ore was hauled from Marquette dock by scows, and a steamboat called the Foggie. She would make four miles an hour if all was calm, but if she had a head wind enough to make the least ripple on the lake she would just about hold her own until the wind went down. We made a point to start down just before sunset. The furnace was started and ran about two months. Then the stock of coal was used up. We were surrounded by farmers and they complained about the building of a hard coal furnace in the woods. What they wanted was a charcoal furnace so they could clear their farms and offered to give all their wood if the company would change it to charcoal. In the winter and summer of 1861 she was changed and ten eighty-cord kilns were built. In the meantime we gave all a chance to make pit coal at seven dollars per hundred bushels and we accumulated a small stock of coal by using the kilns as fast as they were finished, but they did not furnish coal to run her steady. In the same summer Mr. C. T. Harvey had a sheet iron kiln built below, the same size and shape as the cast iron kiln at Negaunee, all in sections, to put up for a trial, lined with four-inch brick, and it proved a success. But the steamboats charged double freight, owing to the sections being so large the only place they could put them was on top of the cabin deck. As the furnace had to lay idle a part of the winter, I said to Mr. Harvey, "Have the sheet iron and angle iron cut in right shape and bundled up and shipped here and I will punch and rivet them here and keep my men at work." He hardly believed it could be done, but I said, "Send me everything for twelve kilns and if they are not up and smoking before next May you can discharge me without pay." Before blowing the furnace out of cast, all necessary plates to shape the iron and punch them, I had them all in the work, but soon had them so advanced I could set one up every week after I got them under way and masons to line them. They were all smoking on time, a hard thing to believe, but ten of them did turn out more charcoal each month than the ten eighty-cord square brick kilns. They held thirty cords each and turned twice a month with all ease. We ran until the farmers' wood was all used up, and all other wood to be had within hauling distance. Then she was blown out and I was left in charge of the property. All teams and wagons, harness, sleighs, were disposed of. After it was decided to make the next start with hard coal again in 1873 she was changed, but the big panic struck before she was finished with a large stock of hard coal at the furnace. It was sold to Mr. Wheaton and hauled to the rolling mill furnace at Marquette by teams. That was the last of her until 1890. She changed hands and I changed her back to charcoal again and ran eleven months and stopped as the price of pig iron was below cost of manufacture, and I have had the care of it up to

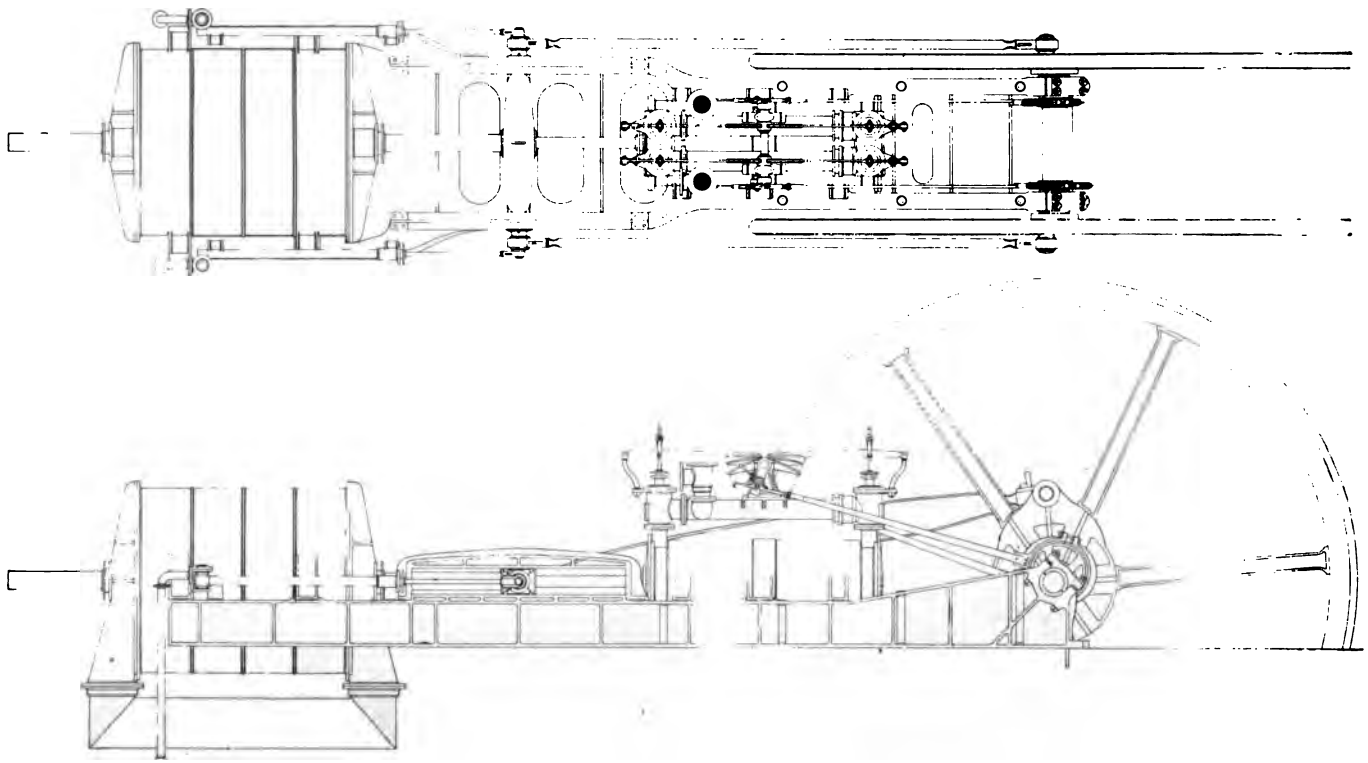


DIAGRAM OF BLOWING ENGINE FOR THE PIONEER FURNACE.

The chain should have broken before the weight had reached twelve tons. The wonder grew as the weight increased from ten to twenty, to thirty, to forty, to fifty, to sixty, to seventy and yet the chain withstood it until five and one-half more tons were added. The test established a new breaking strength for iron.

The circular of the Pioneer Iron Co. was as glittering as the modern prospectus. The circular stated that the company controlled 4,134 acres of



THE FURNACE AT FORESTVILLE, NEAR MARQUETTE, BUILT IN 1860.

this day. In 1870 I superintended the building of the Bay furnace at Grand Island. In 1871 or 1872 I remodeled the Bancroft furnace over by raising her stack ten feet and moved her hot blast from top of stack into the ground, and raised the top house aside from all furnace cares. In 1860 I built a house here and have occupied it ever since. The township of Chocolay was organized about the same time and I filled the office of justice of the peace eight years, and moderator of schools until 1888, and postmaster from 1866-1896, and supervisor of the township from 1866 to 1881, and aside from that I have built five sawmills, several houses and barns, and done about all the surveying of the townships of Chocolay, Yalmer, West Branch and Sands, and have all the work that I can handle. I am not a retired man, but should be but for misfortunes that I will not explain.

The above is a true statement from my memory for the last forty-eight years, as it is impossible for me to find any records or dates I never supposed I would have the opportunity to put them in writing.

Written by Lorenzo D. Harvey, born in the township of Austerlize, Columbia county, N. Y., Sept. 24, 1831. Written at Harvey, Mich., November, 1905.



THE OLD CHARCOAL KILNS NEAR NEGAUNEE.

timber land which "at the usual estimation that a cord of wood will produce 40 bushels of charcoal of which 125 bushels will furnish fuel to melt one ton of iron, and assuming that each acre will yield sixty cords of wood, the company's lands will furnish fuel for nearly 80,000 tons of iron ore sufficient to supply two stacks for ten years." The circular estimated that the cost of making iron would be $19.75, delivered at Chicago, and the cash price for charcoal pig being then $38, the profit would be $18.25 per ton. With this very encouraging prospect the directors felt bold enough to announce that they intended to erect that year (1857) one stack capable of turning out ten to twelve tons daily.



MORGAN FURNACE, BUILT IN 1863.

The first stack of the Pioneer Iron Co. went into blast in April, 1858, and the second one in May, 1859. The prospects of large dividends, however, were rudely shattered. The annual report issued in September, 1859, stated that beside the capital fully paid in of $125,000, a floating debt of $95,000 had accumulated and that the company was losing money on every ton of iron turned out. The quality of its charcoal iron, however, was above criticism.



GREENWOOD FURNACE, BUILT IN 1864.

A number of other furnaces followed the Pioneer, being located at various points with reference to different advantages for the manufacture of iron, one locating near a belt of hardwood, another near a limestone quarry, a third near an ore deposit and a fourth to secure the benefit of water privileges.

The furnace history of the upper peninsula, however, has been one of general abandonment, the Pioneer being the only one of the early furnaces to have survived. One can wander into the wilder portions of the Marquette range today with a feeling that no one has ever penetrated that portion of the wilderness and suddenly come upon the remains of an old charcoal furnace with its battery of ruined kilns, embankments and roadways —mute testimonials of earnest but unrewarded effort.



CLARKSBURG FURNACE, BUILT IN 1866.

The first canal at Sault Ste. Marie was a state affair and was under control of a Board of Control. It seems incredible now but in 1859 in the middle of the shipping season the board concluded to close the canal for two months, beginning with the first of August, for repairs. The three mining companies, the Cleveland, Jackson and Lake Superior, made common cause of this and sent the following petition to the board, which is very interesting reading at this time.



CHAMPION FURNACE, BUILT IN 1867.

"The trade in Lake Superior iron ore is just beginning to establish itself and it possesses the elements of indefinite increase. It now occupies fourth-fifths of the shipping employed on this lake, and will undoubtedly be the chief source of revenue to the canal. The present season is a most



MUNISING FURNACE, BUILT IN 1868.

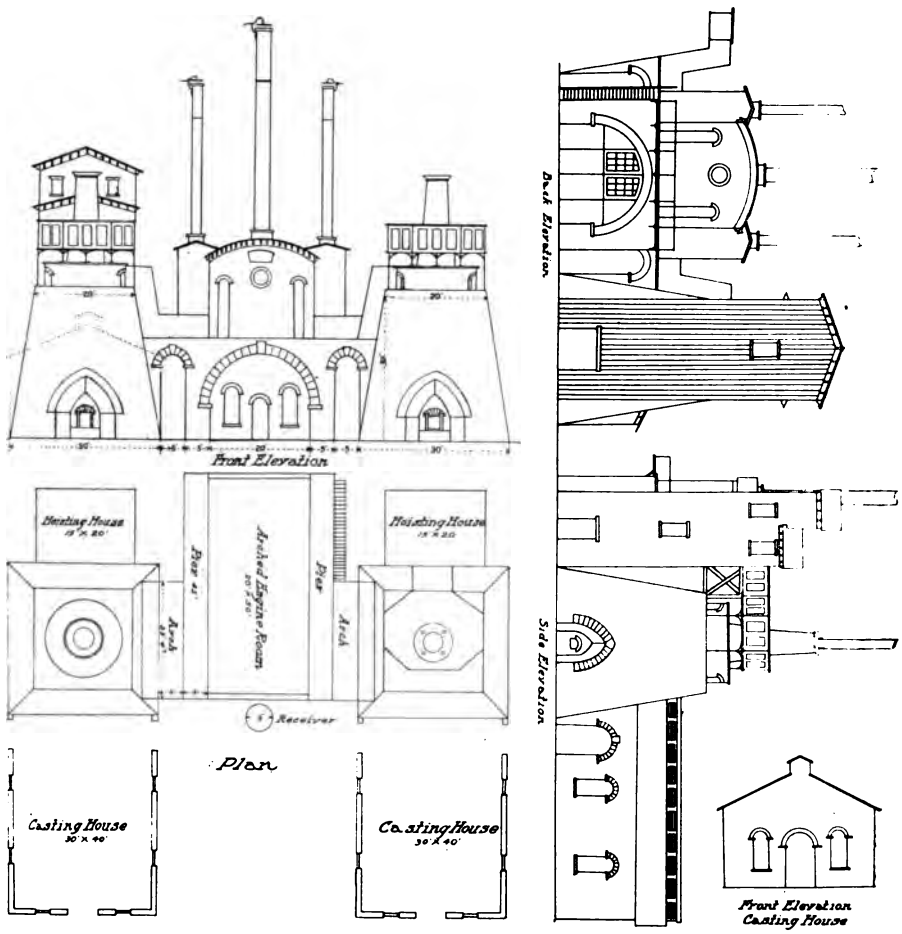
critical period for this great interest. The ores of Canada and Missouri have been brought into close competition with Lake Superior ore and at the points of consumption of more than four-fifths of it those ores meet our own on equal terms of facility of transportation and comparative cost. There is no essential difference in the purity of Missouri ore and our own—the development of the former has been stimulated and the cost of its production diminished by a state contribution of nearly $2,000,000 to the railroad which transports it to the river. The occupation of our markets



GRACE FURNACE, MARQUETTE, MICH., DESIGNED FOR ANTHRACITE COAL, BUILT IN 1871.

by the Missouri and Canada ores the present season would be an advantage which could not be regained in years. The low price at which Lake Superior ore must be offered at the lowest lake ports obviously limits its production to the amounts that can be shipped at modern rates of freight during the most favorable season of navigation. Of the 30,000 tons shipped from this port last year not more than 1,000 tons were shipped after October 1. Its shipments must always be principally by sailing vessels, because it cannot bear as high rate of freight, and as it is principally confined

to the months of June, July, August and September. After the latter months not only is the navigation of Lake Superior somewhat hazardous, but the advanced rates obtainable for other freight precludes the shipment of ore. The companies represented are under engagement to supply this



PLAN OF THE PIONEER FURNACE IN 1857.

season some 60,000 tons; should the canal be closed during two of the above months it will be impossible for them to furnish more than half the quantity, and the furnaces which are their customers, will supply the deficiency for the winter's manufacture with other ores. Not only would this occasion

the absolute loss to the canal revenues of the diminished amount of this year's shipments, but the undue advantage thus obtained at a most critical period of the business, by competing ores, would undoubtedly be perpetuated through several years in a comparatively diminished demand for our own product. Our companies are the pioneers of the iron production on Lake Superior; for ten years past we have been continually increasing our investments and have made expenditures to the amount of more than $1,000,000 in the development of this production without ever having realized a dollar of dividends or returns."

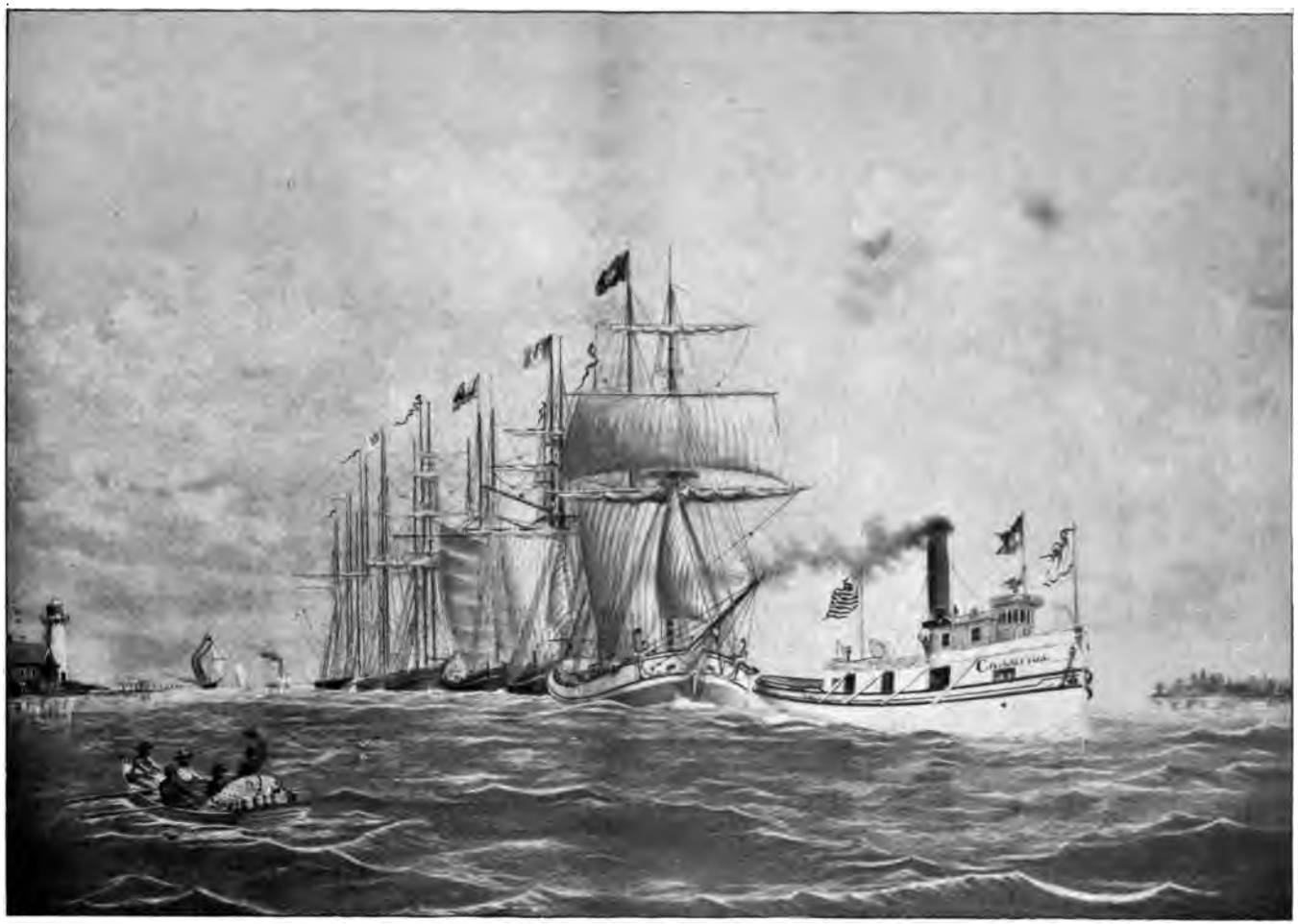


L. D. HARVEY AS HE IS TODAY.

It is gratifying to relate that the petition of the company was successful. The common ore carrier was the sailing vessel and, as the petition relates, vessel owners believed that ore would always be carried in them principally. They were being towed through the rivers, the tug Champion towing frequently as many as seven or eight at one time.

The immediate effect of the breaking out of the war in 1861 was an added depression in the iron business, and it forced a number of the little furnaces to the wall. Stephen R. Gay, who had been instrumental in introducing blast-furnace methods in the peninsula and under whose guidance the Pioneer furnace was built, had started the Bancroft furnace in 1860. Peter White had loaned him what little money he had to spare, but Gay was unable to weather the storm, bred by the rebellion, and Peter White had to step in as secretary and treasurer to protect his own interests. He was busily engaged, too, in organizing a company to go to the front and he was elected its captain. At this stage Marquette protested. It felt that it needed him more than the war required his services and he was persuaded not to go.

Marquette had now grown to be a village of nearly 2,000 inhabitants of the substantial character. Peter's duties were growing upon him, and he prepared to relinquish the office of postmaster which he had held for nearly a dozen years. He was, however, before surrendering the office, to have an



TUG CHAMPION TOWING A FLEET OF SCHOONERS THROUGH THE RIVERS. THE POPULAR METHOD OF ORE TRANSPORTATION IN THE 60'S.

experience which remains with him quite vividly today. Wherever there is wood chopping to be done there is a Frenchman to be found. The Canadian-French went to Marquette in great numbers, for all the furnaces were fed with charcoal. Many of them could neither read nor write, but nevertheless they took sweet pleasure in letters from home. They had numerous legends of Peter White. They knew that he had disappeared in years gone by whenever the mail was uncommonly late and had come back with letters for them. Some of the poor creatures thought that he went as far as Montreal for the mail. They could not understand it otherwise. He was a mysterious being to the French and their families, and was always associated in their minds with dogs, snow shoes, sleds and Indians.

In April and May, when government delivery had been regularly established, the mails were frequently late owing to the deep snows. One night a steamer arrived, the first of the season, bringing the accumulations of a month of mail. Peter had taken it to his office and was distributing it as expeditiously as possible by candlelight, as he knew that at six o'clock in the morning a large crowd would have congregated for their letters. The postoffice was merely a small room in the rear of the store, just large enough for a table, chair and the mail bags. Peter had dumped the mail upon the table and was standing distributing the letters into their respective boxes when he heard a slight noise in the forward part of the store. Michel Belloin, a tall and powerful Frenchman, was approaching. It needed but one look at Michel to observe that he had been drinking heavily.

"You got any letter for Micho, Monsieur Pete," asked he, staggering up to the rail.

"Come in the morning," answered Peter. "I am just assorting the mail now."

"I guess I will come into your little poss offis and sit on dat little chair and see you put dose lette in that box," answered Michel, and suiting the action to the word he undertook to enter the narrow door.

"There isn't room for you," exclaimed Peter. "It is against the law. You cannot come in."

"Oh, ho! What you 'spose I care for de law or you neder? I will come in anyhow. You can't stop me."

As he lifted one foot he stepped over a mail bag at the door, Peter gave him a quick push which caused him to fall backward to the floor and very much enraged him. Arising he paced backward and forward across the store floor, grating his teeth and clenching his fists, calling Peter all manner of names and uttering all sorts of imprecations and epithets in

French. Finding that Peter was paying no attention to him he stopped at the door of the little postoffice and shouted:

"You want to preten you don stand French. Mon Dieu, you don talk good Hinglish. You just a half a breed, half French and half Hinjin. I know what you want. You want me to strike you in your little dam hofis then you bring me on the justes hofis tomorrow morning and make me pay five dolar. Aha! You can't fool Frenchman like dat. You come on to de street if you want me to strike you. If I strike you I won't leave two greas spot on you. If I strike you you will think it is a French horse kick you. You see dat spit down dere? The sun he come he dry it up. Dat's just like you. If I strike you you can't fine yourself anymore. You wouldn't know where you gone to. I come to your poss hofis to 'quire for some lette, and I hax you, just so polite I can, if you got any lette for Micho, and you say 'Get out,' Ain't you shame yourself—don't you sorry you treat me that way? I'm going to tell you something make you sorry that you say so cross to me. I tink I will make your face come red. Some Frenchmen been come here good many year ago; he ben tole me dat you use to carry de mail on your back and a pack on your back, a hax in your hand, snow shoe on your feet and sometime tree poor littel dog on a train draw de mail tru de woods, and your tree littel dog was so poor you could see right tru him. (And here the excited speaker held up his hands with fingers widely distended to represent the visible ribs of the poor dog.) Cos you was so damn poor. You didn have money to buy provision for dat dog. Now you got to be the pos hofis master and you tink you are the biggest big bug on dis town—and when I come to your poss hofis just so polite I can and hax you you got any lette for Micho, you say 'Get out dar' like one dam dog. I like to know if dat's the way to treat a gentleman. I guess you didn't tot dat I know I could tell you all dat. You tink now you biggest big bug on this whole town."

CHAPTER XVII.

PETER WHITE AS A BUSINESS MAN.

IN 1862 the Cleveland and Jackson iron companies declared their first dividend and in 1863 Peter White incorporated his bank into a National bank, calling it the First National Bank of Marquette. The national banking law was then a little more than a year old. He induced Samuel P. Ely to accept the presidency while he himself became the cashier. Mean-



VILLAGE OF MARQUETTE ABOUT 1851.

while he was selling off and on a little iron to vesselmen. When no other freights offered, vesselmen were in the habit of buying a little iron in the hope that they could sell it for a few dollars extra at the lower lake ports and thus earn a fair freight rate for the trip. If iron could be bought

at $15 at Marquette and sold for $20 at a lower lake port there was fair remuneration in it for the vessel owner.

Peter had come into possession of considerable iron through his connection with the Bancroft furnace and he had disposed of it gradually to vessels as they called at Marquette. There are some men who are gifted with prophetic vision. Possibly it is only reasoning power developed to the highest sense. Grant was slowly but surely hemming the Confederate armies in and the country was assuming a healthier and more normal tone. All at once it dawned upon Peter White that the nation would need iron and that the foundries and mills were going to be caught without an adequate



MARQUETTE DOCKS AND SHIPPING ABOUT 1861.

supply of their raw material—pig iron—on hand when the demand came. He packed his grip and started on the track of vessels to which he had been selling iron for months previously. He found a quantity of his own iron on several of the docks, particularly Detroit, and he bought it back at an advance of $6 per ton over the price at which he had sold it—surely a good profit for the vessel man. He bought all that he could find upon this trip, and then he went to Cleveland. Almost before he got there the

demand came, greatly stimulated by heavy orders from the government for guns and railway equipment.

"Want any pig iron?" asked Peter White, walking into the office of the Otis Foundry Co. in Cleveland.

"I should say we do," replied Otis, "and I'll pay $42 a ton for it if I can get any."

Peter sold 1,000 tons at that figure before the day was done. He had paid $24 a ton for it. In two weeks he had cleared $35,000. He kept mighty still about it, though. He had the shrewdness to know that it is good policy to keep still when you're making money and to keep still when you're losing money. For the charcoal iron of the Bancroft furnace he received before the year was out $85, $90 and $95 per ton according to the various grades, the highest figure iron has ever reached in the history of the country. It was these transactions in iron which laid the foundation of Peter White's fortune.

The iron companies by this time got fairly upon their feet and were returning handsome dividends upon the capital invested. The Lake Superior region had, however, scarcely been scratched. The shipments of 1,449 tons in 1855 had increased to 114,401 tons in 1860 but had fallen to 49,909 tons in 1861 upon the outbreak of the civil war. They reached the total of 243,127 tons in 1864 showing a decided revival in the iron trade. The iron resources of Lake Superior were never carried forward as a mere speculation but as a legitimate business enterprise, to which fact is probably due the scant recognition that the industry received in the newspapers of the day. It is doubtful whether the existence of the companies was known on the stock exchanges of New York and Boston. It may seem surprising at this day, now that we know so much of what the iron companies actually possessed that the financial part of the enterprise should have been in doubt. But it was, and seriously so. Time was the asset which all of these iron companies needed.

One Sunday afternoon in 1864 Peter White was down at the dock watching the unloading of a steamer which had just arrived. A distinguished-looking gentleman approached him, who turned out to be none other than Mr. Breckenridge, the vice-president of the Confederacy, and who had just been placed upon parole upon his honor. He was enroute for Canadian territory with a party of Southern gentlemen upon a hunting expedition and telling Peter White that he had just been informed that he was the banker of the town, asked him if he would let him have gold for his paper currency.

Peter White instantly took the vice-president of the Confederacy to his bank building, and, unlocking the door with his private key, entered. The teller, who had a room overhead, was seated in the bank reading. Peter introduced his distinguished companion, and stating his mission requested the teller to open the door to the vault. To the intense astonishment of the vice-president of the Confederacy, and no less to that of Peter White himself, the teller refused to do anything of the kind.

"I do not believe," said he, "that business of any character whatever



MARQUETTE HARBOR IN 1863, SHOWING THE TYPE OF ORE CARRIER PREVAILING AT THAT TIME.

should be transacted on Sunday. This gentleman can doubtless wait until tomorrow morning."

Mr. Breckenridge explained that his steamer was to leave that very afternoon and that, unfortunately, he could not wait. He added that he would not have sought the favor had it been possible for him to wait until the morrow. It became quite clear, however, that the teller's religious scruples were too deeply rooted to be disturbed by the plight of the vice-

president of the Confederacy. The more they argued the more resolute he grew.

"Very well," said Peter, "write the number of the combination on a piece of paper and I will open the safe. You can just scribble the figures in an absent-minded way."

"That would be equivalent to opening the safe," replied the teller. "It would be merely whipping the devil around the stump. I cannot transact business on Sunday, either directly or indirectly. I decline to give you the combination of the safe."

Most men would have exploded and Peter White is not to be blamed if his color heightened a bit. But he said nothing.

"I believe I can get the money elsewhere," he said, turning to Mr. Breckenridge and leading the way out of the bank.

He secured the gold from a friend and Breckenridge went on his way rejoicing. The next morning the teller entered Peter White's private office and tendered his resignation.

"I don't suppose," said he, "that you will have any further use for my services."

Peter White tore up the letter of resignation.

"I am not going to discharge you for sticking to your principles," said he. "I couldn't discharge any man for defending his conviction. I would not, however, have acted as you did. I don't believe you displayed good judgment."

A little later when the teller wanted to go into business for himself Peter White gave him $10,000 without security.

CHAPTER XVIII.

SOLVING THE PROBLEM OF UNLOADING ORE.

IT was in 1865 that the Peninsula Railroad Co. organized by Chicago and New York capitalists as a part of the Chicago & Northwestern system, was extended from Escanaba on Green Bay to the iron mines of Ishpeming and Negaunee, a distance of 62 miles, thus affording another outlet for the shipment of ore through the Straits of Mackinac.

It was during this year also that George B. Stuntz concluded that he would pay some attention to what Joe Posey had been telling him. Stuntz had gone to the Lake Superior country in 1852 and settled in the village of Superior. There was no Duluth in those days. Posey was a woodsman and had gone all through the region north of Lake Superior on the trail which for a hundred years had been traveled by the traders and guides of the fur companies. In the course of his travels through the north, Posey had crossed Vermilion Lake and had seen what he took to be great mineral outcroppings on its eastern side. Stuntz, who knew of the Marquette development, thought it possible that the iron formation might be repeated. It was in October, 1865, that Stuntz left Superior with Indian canoe men and guides for Vermilion Lake. It was not the three-hour trip that it is to-day over a solid railway but a weary tramp of weeks. There is the portage from the Fond du Lac, "the head of the lake" around the rapids of the St. Louis river, a scramble of nearly ten miles through brush and over windfalls, then a canoe ride of nearly 100 miles along the swift and black St. Louis, a portage of five miles across to Pike river and a further voyage of 30 miles along the watershed before the southern end of Vermilion lake was reached. Curiously enough in traversing this watershed he was crossing the greatest ore body in the world—Mesabi—but he had no knowledge then of the wealth beneath his feet. Stuntz found two outcroppings where Posey had indicated, one of which later became the Lee mine and the other the Breitung pit. He broke off 60 pounds of it with sledges, a beautiful specular hematite, which his party had to shoulder together with their supplies for a weary

tramp back to Superior, for the rivers by that time had all frozen. Stuntz's attempts to interest capital were futile, as the distance was considered too great. Vermilion was not to be developed then.

The Cleveland Company's dock at Marquette with its ore pocket was loading the little schooners with considerable dispatch, but the problem of unloading the vessels at Cleveland and other Lake Erie ports by means of a horse, hoisting the ore out of the hold with blocks and tackle was extremely slow and tedious work. Tlie firm of Bothwell & Ferris, which operated the Nypano docks (now the Erie railway), in the old river



THE SCHOONER JAMES F. JOY.

This vessel was owned by the late George W. Bissell, of Detroit, and was the greatest carrier on the lakes when she was built in 1866.

bed at Cleveland, usually employed about forty horses in the work of unloading the schooners. The horses pulled the tubs to the deck of the schooner and the ore was then dumped into barrows and wheeled ashore. It ordinarily took two days and more to unload a cargo of 400 tons which was accounted a considerable cargo in those days. One day in the spring of 1867 J. D. Bothwell, who was watching a small engine lifting piles

into the air preparatory to driving them into the river bed, conceived the idea that an engine of somewhat similar design, could also hoist the ore from the holds of the vessels. He approached Robert Wallace, of Wallace, Pankhurst & Co., with the idea, and Wallace at once designed and built a little portable 6 x 12 engine, fastened to the side of the boiler. It could be moved about the dock to any desired position and could perform the same work which the horses were doing. After the engine had been installed the first vessel to come along was the bark Massillon, under command of Capt. Smith Moore, with a full cargo of 400 tons. When Smith saw the queer little thing moving to its position alongside the vessel he inquired for what purpose it was being placed there, and upon being told that it was for the purpose of unloading his vessel, he swore roundly. It is on record that he strode the deck of the Massillon in a towering rage and demanded with energetic and eloquent profanity that the horses be substituted on the ground that he did not want to remain in port during the balance of the week. Notwithstanding Smith's protest the Massillon was the first ore vessel to be unloaded by machinery. The little engine proved to be much more expeditious in its work than the horses, for before the day was done the bark was unloaded. Smith's anger faded as he saw the little engine bend to its work, and was delighted to find that he was ready to leave that very evening. Bothwell & Ferris paid Wallace, Pankhurst & Co., $1,200 for the engine. It was the means of making the firm of Bothwell & Ferris rich, for they were enabled to do the work quicker and cheaper, and as their contract with the railway was based upon a fixed percentage of the tonnage handled, quickness and cheapness meant a double advantage to them. The little engine created a furore along Lake Erie docks and Wallace, Pankhurst & Co. received orders for nine of them immediately thereafter.

"It meant a big boost in our business too," said Robert Wallace, telling the story. "I remember what a mighty big thing those contracts seemed to us—and to have nine of them, one right after the other. It literally put us on our feet."

These little engines did no more than to haul the ore to the decks in tubs, from which it was dumped into barrows and wheeled ashore on the runway. The little engine operated three strands of rope fall, hoisting from the hold of the boat three tubs of ore at one time. In the hold there were two shovelers and a sharacker to each shovel. The sharacker was paid by the shoveler one-third of his wages. On the runway above there was a wheeler and dumper who took care of the lines and gave the signal to the engineer to hoist the tub out of the hold. The tub was dumped by the



SARNIA BAY IN 1870.

wheeler and dumper into the barrow and wheeled out on the runway on wooden horses to the ore pile on dock and dumped. There were three wheelers and one dumper to each hatch of the boat. . This method of unloading continued for nearly fifteen years thereafter.

Marquette in its center slopes gently to the lake and both east and west the descent is abrupt. The western part is known as the Ridge, a most appropriate name, since it is both rugged and high. It commands a view of the entire city, the beautiful Presque Isle and a vast expanse of the waters of Lake Superior, sometimes turbulent and sometimes as placid as a pond. It was upon this ridge, directly overlooking the lake, that Peter White secured thirteen acres of land and in 1867 built the house which is his home to this day. It is the most splendid residence in Marquette.

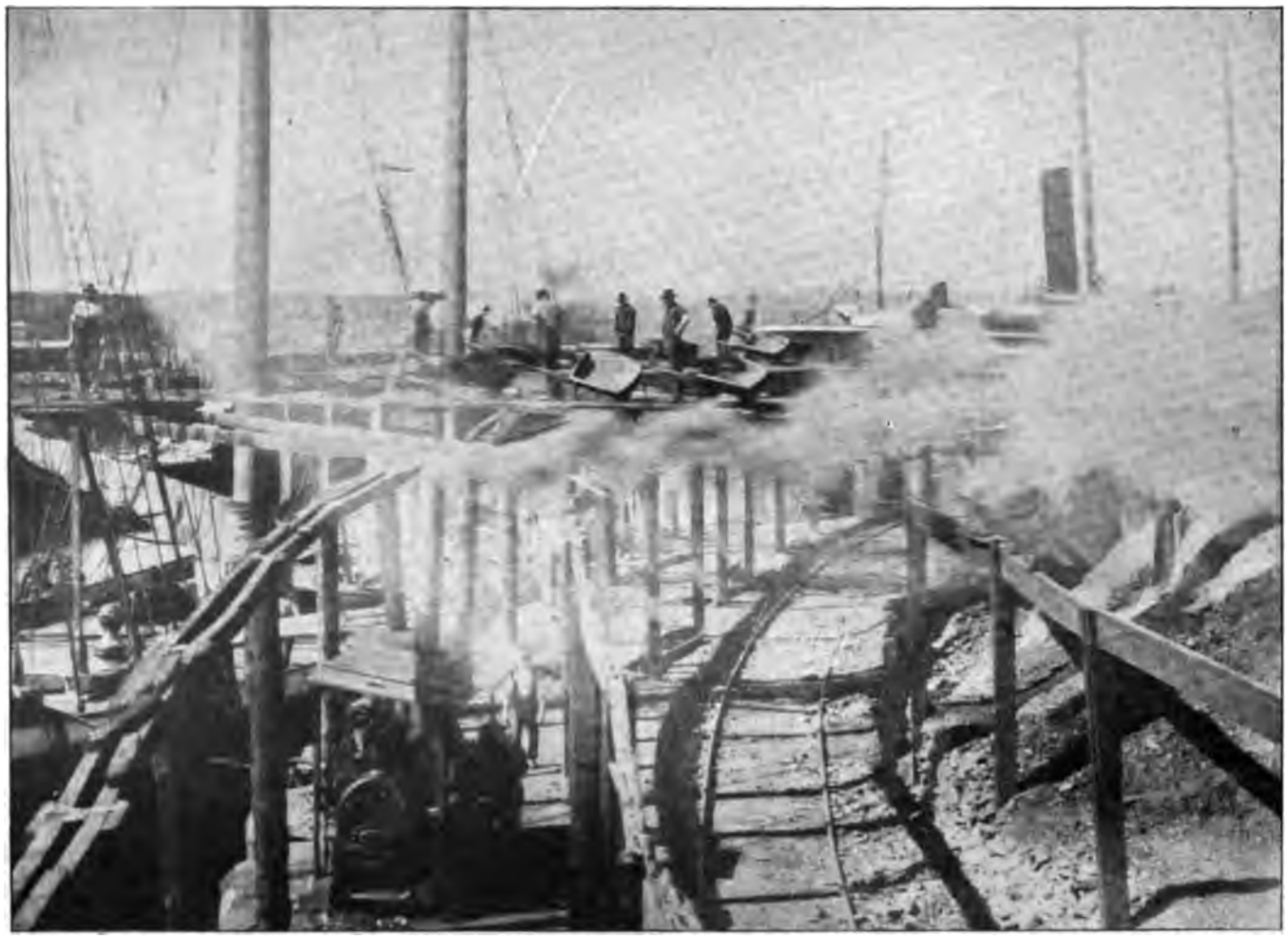
In 1868 the town of Marquette was burned to the ground, but Peter White's house on the ridge was not a part of the catastrophe. The only thing of a business kind saved was the Cleveland dock. Among the ruins was the plant of the Mining Journal, owned by Peter White. He sold the good will and subscription list to A. P. Swineford for $100. There was little else to sell at that moment, but even at that it was a great bargain. Swineford resurrected the remains and made a good paper out of it.

Peter White had now grown to be an influential citizen and was clearly and unmistakably the first man in Marquette. He succeeded to the presidency of the First National Bank in 1869, which office he has held continuously since. As banker, real estate agent and capitalist he was invariably consulted when any new enterprise was started in the town. If it was worthy he encouraged it by a personal investment, and by this policy he both made and lost money.

"I have bought," said he in later years, "considerable stock in various companies, but I have never sold a share in any of them. Some have been good and some have been very bad, but on the whole I have come out a little ahead. At any rate, by this policy I am sure that no person has ever lost any money through me."

He also started a general insurance business with special reference to marine insurance, both hull and cargo, which later became extensive.

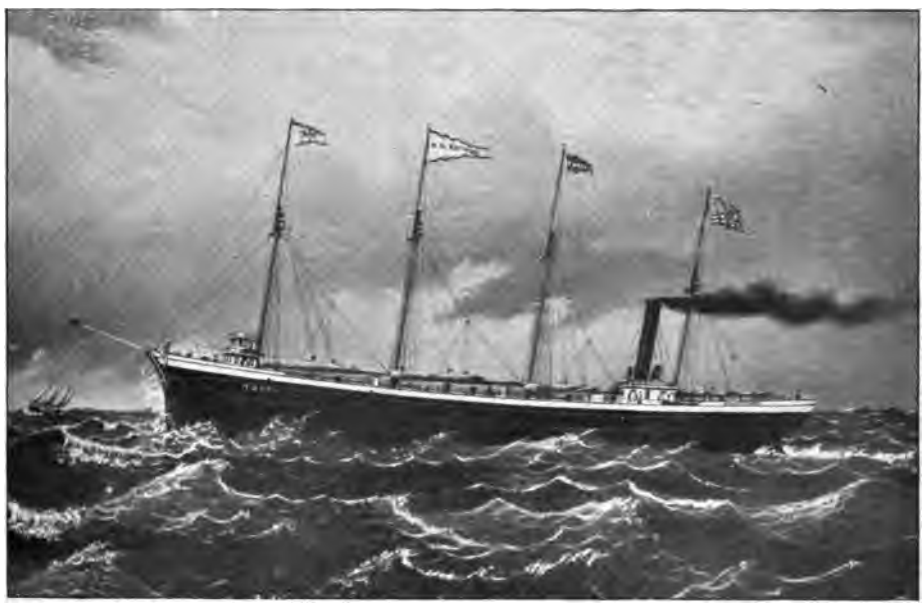
In 1869 the first steamer to be designed for ore carrying purposes exclusively was built by Peck & Masters, of Cleveland. This was the R. J. Hackett, and she was built to carry the ore of the Jackson mine. The Hackett was 211 ft. long and 33 ft. beam. The following year the Forest City was built as her consort. The Forest City was 213 ft. long and 33 ft. beam. The system of propeller and consort grew in popularity and gradually displaced the crude sailing vessel. It abolished the profit-



THE LITTLE DOCK ENGINE WAS INSTALLED ON THE NYPANO DOCK IN CLEVELAND, 1867. THIS METHOD OF UNLOADING ORE CONTINUED UNTIL 1880.

able business of towing up and down the rivers which the tugs had enjoyed. To counteract it the tugs would occasionally tow the sailing vessels all the way from lower to upper lake ports and back, but this effort was only temporary, the sailing vessels gradually abandoning their independent existence and becoming consorts to steamers themselves.

When the town of Marquette was incorporated and was entitled to have a mayor the people turned instinctively to Peter White. He consented to run. He was a Democrat in principle and is so yet, but he severed his affiliation with the party when it seemed willing to make a sacrificial offering of the financial credit of the country upon the altar of free silver a



THE STEAMER V. H. KETCHUM, LAUNCHED IN 1874. SHE WAS THE LARGEST VESSEL ON THE LAKES.

few years ago. Now envy is one of human nature's frailties, and when Peter White consented to run for mayor a certain number got together and nominated a rival candidate. Peter White made no campaign and neither did his supporters; but the opposition worked night and day. They toured the highways and byways incessantly, and when the votes were counted it was found that the opposition had elected their candidate by a majority of sixty-one. Great was the indignation of Marquette. They felt that an outrage had been committed. The successful candidate was fearfully mor-

tified over the result. He declared that he went into the contest as a joke and that he would not have gone into it at all if he had had the remotest idea that he was going to be elected. He implored Peter White to take the office and when Peter White declined he actually wept. Four years later when Peter White was out of town he was unanimously elected mayor of Marquette. This is probably the only instance on record where a man obtained a mayoralty without a single dissenting vote. But he sent in his declination by wire. And so he never has been mayor of the town.

A lasting friendship was formed between Peter White and Samuel P. Ely, and when Mr. Ely was elected mayor of Marquette in 1872, Peter White commemorated his administration by building a library and dedi-



THE WOODEN FLEET IN SHELTER AT SAND BEACH—A SCENE OF TWENTY YEARS AGO.

cating it to the city. It was a small affair but it was the germ of a splendid structure. A little later he presented to the city ten thousand volumes from his own private library.

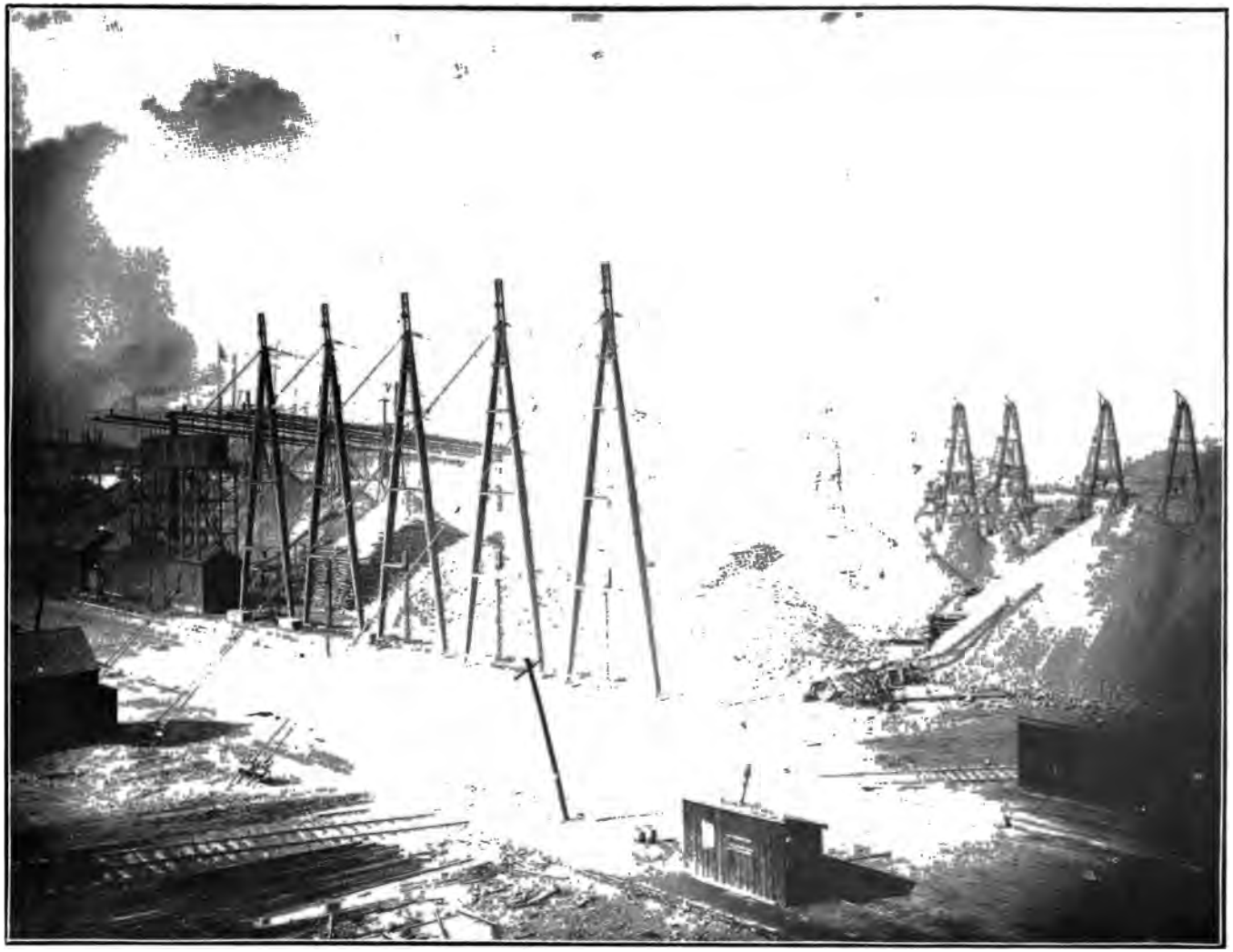
In 1874 the steamer V. H. Ketchum was built at Marine City, and thousands gathered to see her go overboard, for she was 20 feet longer than anything afloat and was regarded as a floating monster. She was, in fact, far in advance of dock facilities, and though she was not profitable at first she subsequently earned fortunes for her owners. The Ketchum was 233 ft. long, 41 ft. beam and 24 ft. deep.



ASHTABULA HARBOR IN 1874, SHOWING THE FLAT CARS USED IN THE ORE TRADE AT THAT TIME.

In 1875 a number of Detroit capitalists began to project a railway from St. Ignace to Marquette, under the title of the Detroit, Mackinaw & Marquette Railway, and Peter White was again sent to the legislature to see about the grant to aid in the development of this enterprise. Upon this occasion he went to the senate. His influence was felt instantly and irresistibly. It had been nearly twenty years since he had made the trip to Lansing on snow shoes, but the memory of it had not been forgotten. This time he went by railway. Through his effort the projected railway became an assured undertaking and the people of Marquette went out to meet him upon his return from the senate. A delegation endeavored to intercept his train at a little railway station about twenty miles from Marquette, but these he successfully evaded. Not so at the railway station at Marquette, however. The whole town had congregated there to greet him and the enthusiasm was unbounded. Amid laughter, shouting, fireworks and general rejoicing they unhitched the horses from his sleigh and drew him to his home.

Meanwhile George B. Stuntz was endeavoring to interest capital in the iron ore deposits near Vermilion Lake, which he had discovered ten years previously. He induced W. W. Spalding of Ontonagon and George C. Stone of Duluth to look into the deposits. They took with them A. H. Chester, professor of geology in Hamilton college. These men went to examine what had been reported to Spalding as an immense iron deposit south and east of Vermilion lake. It may be noted that this was the first examination for iron ore ever made upon the iron range which has since become the wonder of the world—Mesabi—and the fact that it was made upon a part of the range which has so far proved of no real value does not militate against the enterprise. Stuntz endeavored to lead Chester to his former finds upon Vermilion lake but the latter was skeptical. He did, however, furnish Stuntz two Indians and a keg of powder. Stuntz soon found his old location, commenced drilling and shot the first blast in the history of iron mining in Minnesota. What with digging and blasting they broke off about sixty tons of ore which, it was afterwards found, ran from 65 to 66 per cent in iron of Bessemer quality. Prof. Chester, who was at work upon the Mesabi, was at once summoned and was astonished at the result.



THE SECOND STAGE OF ORE UNLOADING. THE ORIGINAL BROWN PLANT ON THE N. Y. P. & O. DOCKS AT CLEVELAND UNLOADING BY CABLEWAY. THE FRONT PIER OF THESE MACHINES WAS MOVABLE. THEY WERE THE FIRST MOVABLE PIER CABLEWAYS EVER BUILT IN THIS COUNTRY. THIS RIG WAS FAMILIARLY KNOWN AS THE OLD TOM COLLINS.

"Why," said he, "with three men you have obtained more ore than I have found down there with twenty-two men."

Although this excellent showing was made and although Stuntz called Chester's attention to finds further east at what later became the Breitung pit, the capitalists backing Chester were so discouraged at the poor showing on the other range that nothing was done. Vermilion was not even to be opened then.

Another iron ore district was undergoing exploration, however, and was presently to become an important factor. Why the Menominee, lying contiguous to the Marquette range, should have remained so long unknown is not readily understandable nowadays but it was doubtless influenced by an impression then prevalent that iron ore in paying qualities was not to be found in districts whose geological formation did not correspond with that of the Marquette range. Certainly tract after tract, from which millions of tons of ore have since been won, was stripped of its standing pine and abandoned. Even the experts in locating the lands of the St. Mary's Canal Company unsuspectingly released many valuable deposits which had been withdrawn from the market until the company had completed its selection. One of these was the Quinnesec mine, the outcropping of which was discovered in the fall of 1871, by John L. Buell in company with John Armstrong, on a tract which had been entered by Sales & Lasier in 1864, but which had been cancelled to allow the canal company to complete its selection. It was not until the spring of 1873 that the title to this tract was restored to Sales & Lasier and in May of that year Buell resumed his explorations with a force of fifteen men. A deposit of blue ore was struck on Aug. 3. In the spring and summer of 1874 fifty-five tons of it was hauled to Menominee on sleds and wagons and smelted in the furnace there with a mixture of Jackson hard ore and Winthrop. Robert Jackson, superintendent of the furnace, tried the last charge with Menominee ore alone, working it successfully and proving its tractability. This was the first practical test of Menominee range ore and development was rapid thereafter. It became a regular shipper in 1877 and has been an increasingly valuable source of mineral wealth since. The Menominee range lies in the northern part

of Menominee county and the southern part of Marquette county in Michigan, extending also into the adjoining county of Florence in the state of Wisconsin.

In 1876 Peter White established his reputation as a stump speaker by campaigning in the peninsula in behalf of Samuel J. Tilden, who was the democratic nominee for president of the United States. Peter White's friendship for him began in 1864, when Mr. Tilden became identified with the iron mines of the peninsula, and no more active campaign was ever waged in that section of the country than Mr. White waged for the friend whom he has always believed was elected to the great office of president.



ALEXANDER E. BROWN.

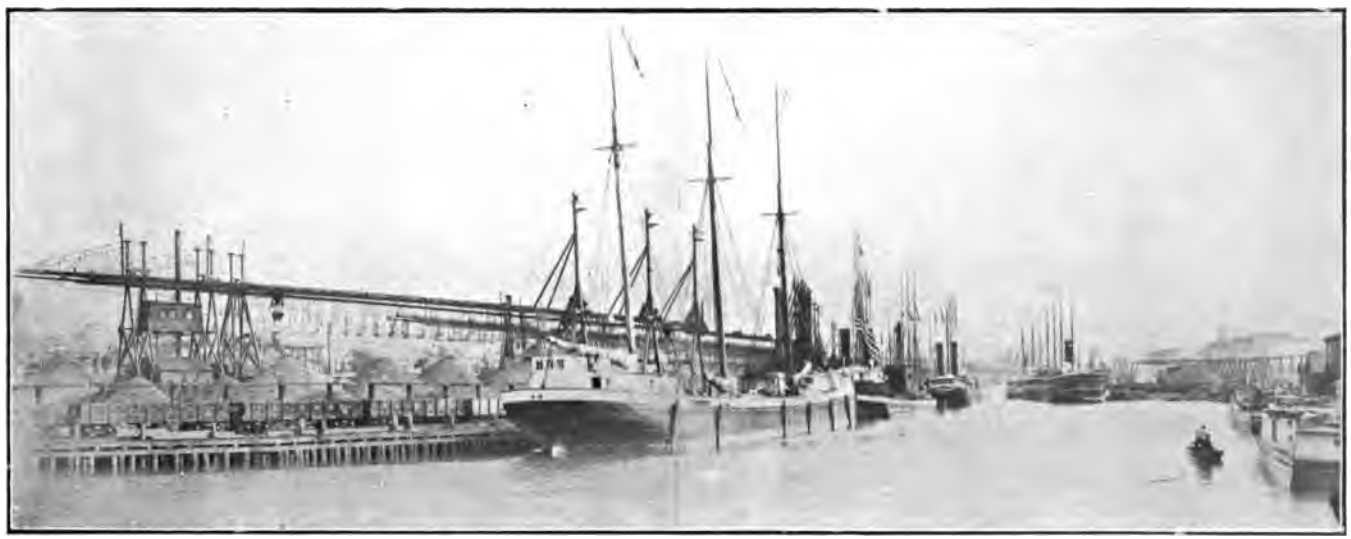
Two ranges were now contributors to the stream of ore going down the lakes. Vessels were gradually growing larger and more numerous, but the method of unloading had actually made no progress since Robert Wallace installed his little portable engines on the docks. Vessels were being unloaded by means of the wheelbarrow and gang plank with infinite toil and delay. Alexander E. Brown, a young man of great mechanical ingenuity, saw in the situation a most attractive engineering problem and from a knowledge of the business gained in the office of his father, Fayette Brown, he was aware that it possessed indefinite commercial possibilities. In 1880 he directed his inventive powers to the problem with the result that he developed a system of hoisting and conveying by machinery that has since been brought to a high state of efficiency. The first Brown machine was established on the Erie dock at the foot of Pearl street and the old river bed. It was popularly called the old Tom Collins. It was a single cable-worked

rig, the stop being subject to lowering and dumping the bucket. There were five rigs with the machinery all in one house. The bucket was filled by hand shoveling. The Tom Collins and the Brown hoist, which succeeded it on the Erie docks, containing three working legs on each hoist, served the combined purpose of direct transfer from vessels to cars, transfer from vessels to storage and reloading from storage to cars. This development on the part of Mr. Brown of high hoisting and conveying speeds produced really remarkable results and reduced the time greatly for unloading; but nevertheless the fact that the tubs had still to be filled by hand and that the loads were relatively small militated seriously against large hourly capacities in unloading. The time for unloading, however, was materially reduced by nesting or grouping these machines so that ore could be taken from all hatches simultaneously. During the winter of 1882 Robert Aspin established on the docks of the Illinois Steel Co. at South Chicago the Champion ore hoist. The machines went into operation at the opening of navigation in 1883 and were the first ore unloading machines to be used on Lake Michigan.*



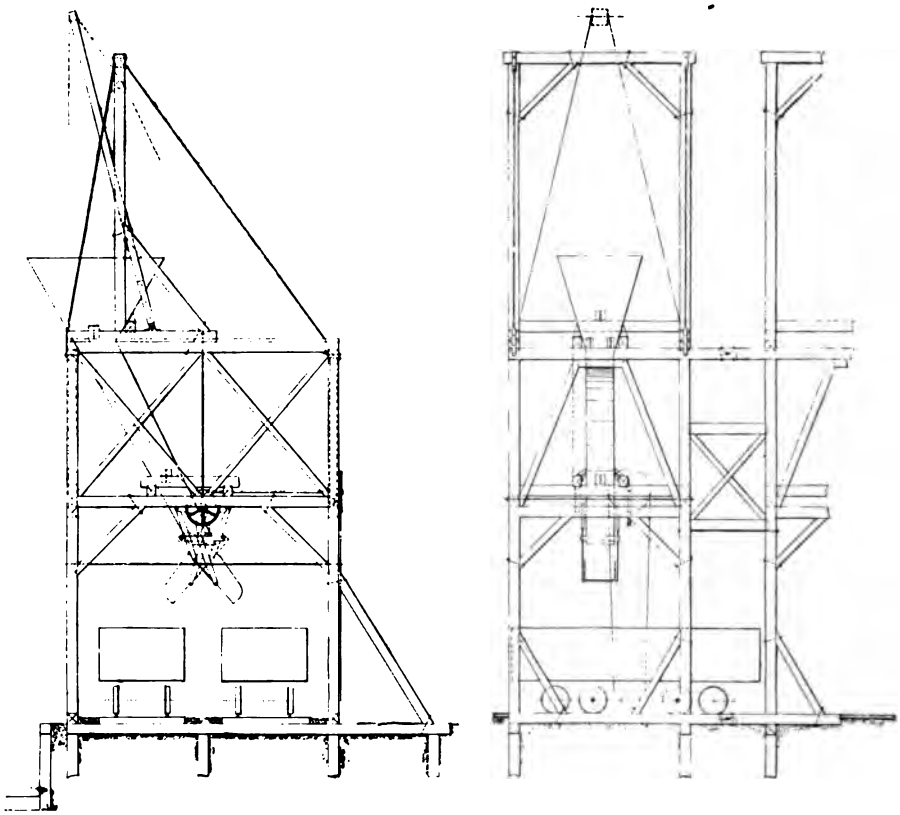
ROBERT ASPIN.

*Robert Aspin, popularly known as "Bob" Aspin, was a man of many parts. His life was an exceedingly interesting one. He was born at St. Johns, Newfoundland, and early turned to the sea to gain his livelihood. He had circumnavigated the globe before he was out of his teens. Being extremely fond of adventure, he joined the British navy and served throughout the Crimean war with distinction. He became a lake sailor in the sixties and settled in Chicago some time before the fire of 1871. When the North Chicago rolling mills were established he was one of the first men to be employed and remained with the company until 1879. He was then transferred to South Chicago, where the Illinois Steel Co. had erected a little plant, and was given charge of the design and construction of its docks. The chief problem was the unloading of ore and to this Mr. Aspin gave his undivided attention. He evolved the Champion ore hoist, the general plan of which is well portrayed in the accompanying drawing and photograph. So well did it answer its purpose that it was not superseded at the south docks of the Illinois Steel Co. until 1906, when Hoover & Mason grabs were erected there. The Champion hoists are still in use at the docks of the International Harvester Co. at South Chicago. Mr. Aspin was for twenty-five years the superintendent of docks for the Illinois Steel Co. He died in August, 1906. His son, Robert Aspin, is superintendent of docks for the National Tube Co. at Lorain.



ANOTHER VIEW OF THE BROWN BRIDGE TRAMWAY AT ASHTABULA—THE THIRD STAGE IN ORE UNLOADING.

It was in 1880, that Geo. C. Stone succeeded in interesting Charlemagne Tower, Sr., and others in the Vermilion district, and a second report was requested from Chester. Tower comprehended the situation immediately and took hold of it with vigor. Sioux scrip was laid on the land and the development of what was later known as the Minnesota mine began. They made one of the greatest surface showings ever known in an iron ore location. The next year the construction of the Duluth & Iron



CHAMPION ORE HOISTS, SECTIONAL VIEW.

Range Railway was begun. It was through a territory barren, steep, rocky, broken and bewildering, but the projectors had what the pioneers of the Marquette range never had, money and modern machinery. But their faith was majestic, for there was not an ounce of traffic in sight other than what could be obtained from the single undeveloped mine. The new mine, the Minnesota, made its first shipment of 62,124 tons in 1884. It is an interesting

commentary to make that the shipments of this original mine are now but 3 per cent of the total annual shipments of the Vermilion range. Had there been no more ore than what was contained in the original mine, which was all that the original projectors had to go upon, the enterprise would never have justified the outlay in railway construction.

In 1884 the Gogebic range, lying west of the Menominee, became a shipper. The first examination of this range was made by Col. Charles Whittlesey, of Cleveland, who was the assistant of Owen when he made his first governmental survey in 1848-9. No development was attempted until after the completion of the Wisconsin Central railroad to Penokee Gap in 1873,

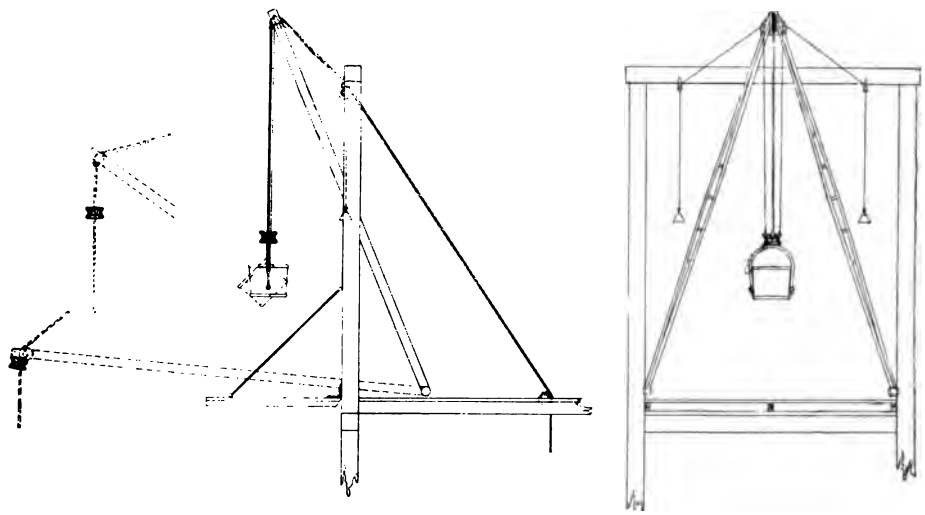
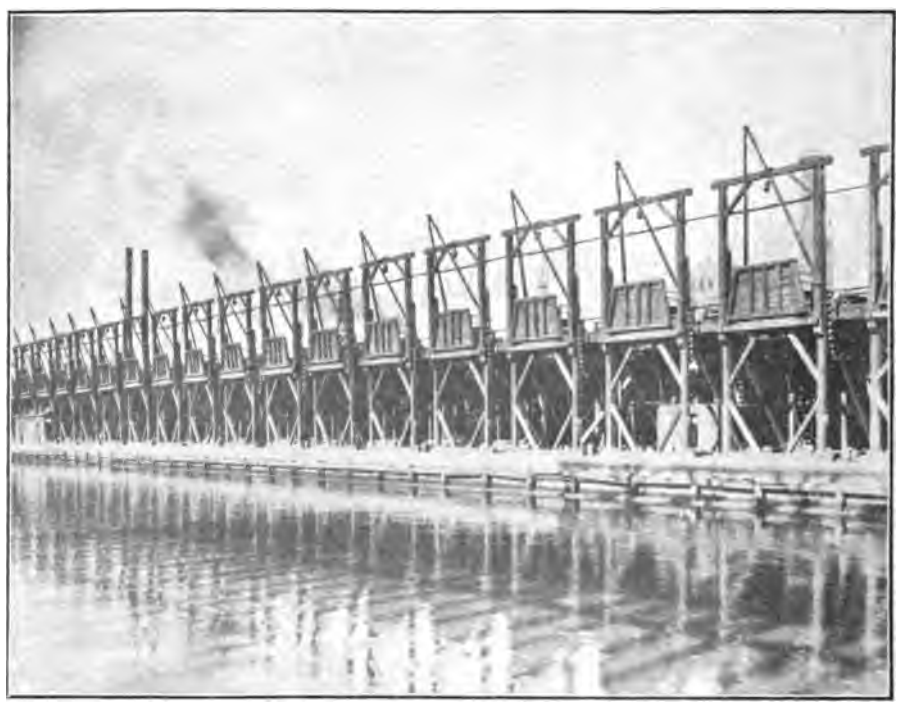


DIAGRAM OF CHAMPION ORE HOIST.

although several companies had been organized prior to 1860. These were the Magnetic Iron Co., of which Col. Charles Whittlesey was president; the Wisconsin & Lake Superior Co., Angus Smith, president, and the La Pointe Iron Co., Hon. H. B. Payne, president. The La Pointe Iron Co. is still in existence, owning several thousand acres of land immediately west of the Gap. In 1873 the company sank a shaft to a depth of nearly 100 feet in a body of magnetic ore, analyzing 56.9 per cent of metallic iron according to Prof. Irving, of the University of Wisconsin, who made his tests the following year. The panic of 1873 caused a suspension of operations on the La Pointe company's lands and to this day they have not been resumed.

The Colby, at Bessemer, was the first mine to be opened on the Gogebic range. Ore in quantity was discovered on this property in the summer of 1880 by Capt. N. D. Moore. Richard Langford, "the hermit of Lake Superior," maintains that he is the real discoverer of the Gogebic range, claiming that he found the Colby outcrop beneath the roots of a birch tree that had been leveled by the wind and that he apprised Capt. Moore of the location. At any rate it is known that Langford, who was a trapper, carried many samples of ore into Rockland years before the range was exploited.



THE CHAMPION ORE HOISTS AT THE ILLINOIS STEEL CO.'S PLANT—THE FIRST ORE UNLOADING MACHINES TO BE INSTALLED ON LAKE MICHIGAN.

The first shipment of ore from the Colby mine was made on flat cars over the Milwaukee, Lake Shore & Western railway in October, 1884, via Milwaukee, to Erie, Pa. This ore was shipped from Milwaukee on Nov. 11, 1884, by the Penokee & Gogebic Development Co. on the schooner Gawn and was delivered at Erie, consigned to Tuttle, Oglebay & Co. It consisted of 966 gross tons. The original bill of lading has been preserved, is appro-

priately framed and is now in the office of Oglebay, Norton & Co., Cleveland, successors to Tuttle, Oglebay & Co. It is interesting to state that this ore was mined by a steam shovel under the direction of Capt. Joseph Sellwood, the first ore to be so mined in the Lake Superior country. The common impression is that the steam shovel was first introduced on the Mesabi but that is because the Mesabi is so vast a steam shovel proposition as to overshadow all the rest.

Peter White had been campaigning in the peninsula for Grover Cleveland as vigorously as he had for Tilden, eight years before, and there is to be observed in his scrap book in the small, delicate handwriting of the great Democratic president a letter of regret that he should have left Washington without calling at the White House after the inauguration. That letter from the president, who was desirous of having Peter White in his administration, reached Marquette almost as soon as Peter White did. But Peter White wanted no office.

During the years in which he was connected with the Cleveland Company as its real estate manager, Peter White sold hundreds of thousands of dollars worth of property, the principal transaction being the sale of the Cleveland dock to the Marquette & Western Railway in 1882, a branch of the Detroit, Mackinaw & Marquette, which was constructed to tap the iron mines and was the only rival the old Iron Mountain Railway ever had. The rivalry did not last long, however, as the Marquette & Western quickly absorbed the Iron Mountain. They are all a part of the Duluth, South Shore & Atlantic.



THE STEAMER E. H. GARY OF THE PITTSBURG STEAMSHIP COMPANY'S FLEET UNDER THE HULETT CLAM-SHELLS AND BROWN ELECTRICS AT CONNEAUT.



VIEW OF THE HARBOR OF ASHTABULA IN 1902, SHOWING THE QUANTITIES OF ORE HANDLED.

CHAPTER XIX.

DISCOVERY OF THE MESABI RANGE.

IT was in 1890 that the first successful exploration for iron ore began on the Mesabi range. The credit for the early development of this range belongs to Alfred and Leonidas Merritt, as the Mountain Iron mine was found Nov. 16, 1890, by a crew of workmen under Capt. J. A. Nichols, who was in the employ of the Merritts.

In August following the Biwabic group was discovered by John McCaskill, Wilbur Merritt and Captain Nichols. A few months later the Merritts found the Missabe Mountain ore body, now a portion of the Virginia group, and shortly thereafter Frank Hibbing and others brought the great ore body of the Hibbing district to light. The Fayal bend was traced the following year by J. Uno Sebenius, D. T. Adams and M. Van Buskirk. Meanwhile, regardless of all physical obstacles, the Duluth, Missabe & Northern railroad had been projected and completed to the Mountain Iron mine in November, 1892. On Nov. 11, 1892, the Mountain Iron Mining Co. made the first shipment of ore made from the Mesabi range, shipping 2,073 gross tons from the Mountain Iron mine. This was consigned to Oglebay, Norton & Co., Cleveland, who, according to their custom, have preserved and framed the first bill of lading. It is dated Nov. 11, and was shipped on barge 102. A second cargo was shipped by Oglebay, Norton & Co., bringing the total to 4,104 tons. Being late in the season it froze in the dock pockets and the whole operation attending the initial shipments from Mesabi were inauspicious and discouraging. The ore was divided among the Carnegie Steel Co., the Thomas Furnace Co., the Isabella Furnace Co. and the Oliver Iron & Steel Co. Then followed the Eveleth group by the discovery of the Adams mine by J. Uno Sebenius and Louis Roucheleau. In September, 1893, the great Stevenson mine was discovered and explored by Edmund J. Longyear. These mines still remain the chief center of mining and ore tonnage upon the Mesabi range.

Mesabi is the Indian word for giant, and this range is most appropriately named. It is the giant's range, outrivaling any ore deposit known

to exist on earth, the leading mines sending forward from 1,500,000 to 2,000,000 tons of ore annually. Enormous deposits of it lie loose like dust and is mined as cheaply as the proverbial dust is shoveled. In fact Mesabi is largely a steam shovel proposition.

Mesabi was discovered at the time when, notwithstanding the then unprecedented demand for iron ore, the other ranges had no difficulty in meeting all requirements. Indeed more ore was piled up on Lake Erie docks at the close of the season of 1892 than at any previous period in the



THE BROWN GRAB BUCKET IN THE HOLD OF THE STEAMER WOLVIN.

history of the Lake Superior region. Under such conditions the discovery of unlimited millions of tons of soft ore tributary to these same docks and the same trade could not but be serious to many of the old range companies. Such a depreciation in the value of mines and mining stocks, which were earning a good dividend, as followed on the heels of this discovery has seldom if ever been witnessed in this country. It is incredible that men of experience in the iron ore industry, who had seen one new ore range

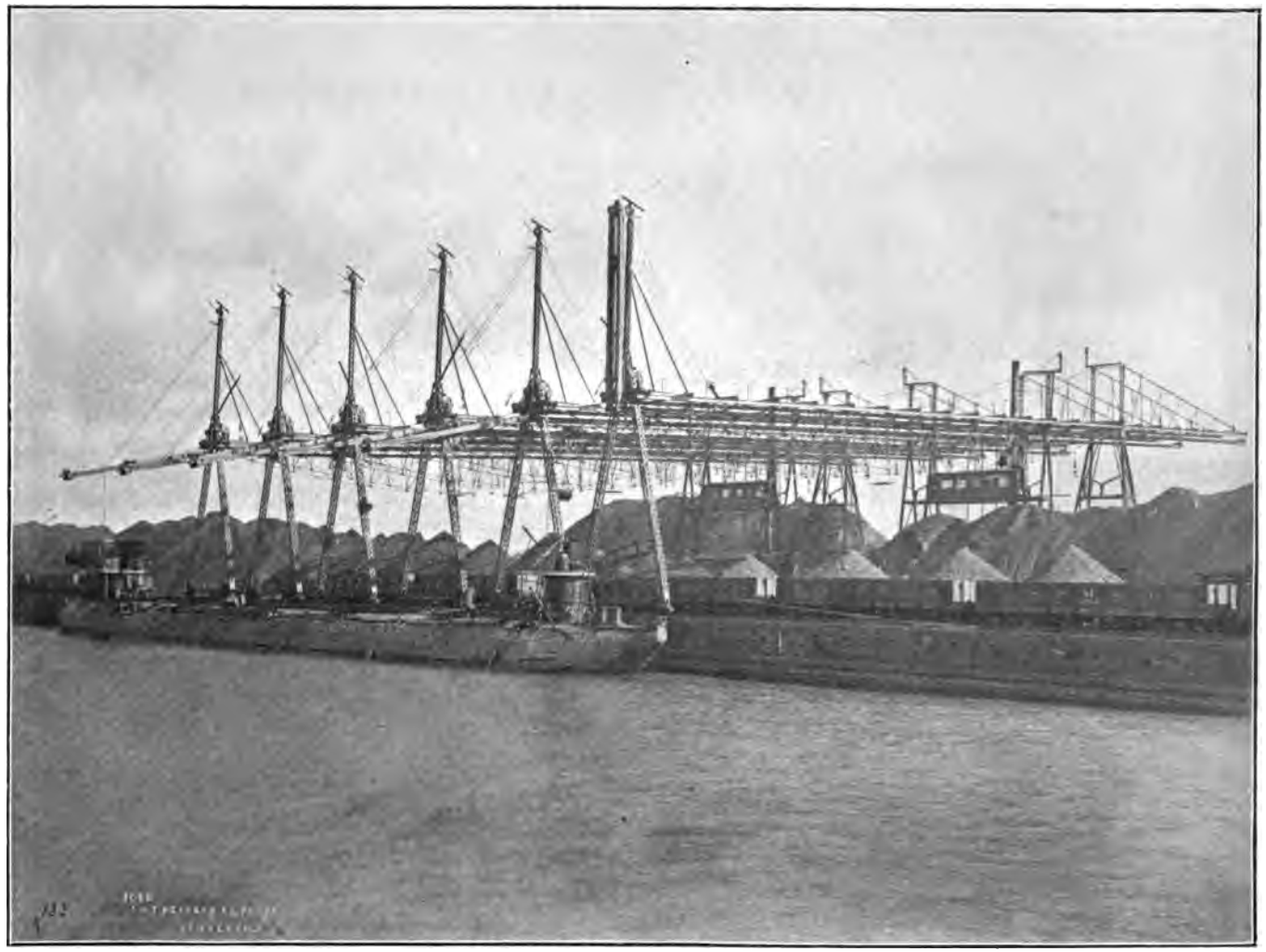
after another discovered and developed, and who were heavily interested in iron mines, should have been so short sighted as to refuse to accept the opportunity repeatedly offered to them to secure holdings in the new field and thus recoup themselves for any loss that might be sustained in their old range holdings in competition with the greater abundance and lower working cost of ore in the new range. What a commentary on the blind-



THE HULETT CLAM-SHELL BUCKET IN THE WOLVIN'S HOLD.

ness of human nature it is that the greatest iron range ever discovered should have been disregarded by those best able to appreciate it and that the owners of the newly discovered mines should have knocked vainly for assistance on the doors of offices in Cleveland, Pittsburg, Chicago and other headquarters of the iron trade.

There is this to be said, however—that the first results of Mesabi ore in the blast furnace were as disappointing as the first results of Mar-



SHOWING THE THIRD STAGE OF ORE HANDLING—THE BROWN BRIDGE TRAMWAY. THESE MACHINES WERE OPERATED BY STEAM POWER [illegible] BY TIDE, BUT TO-DAY HAND BEING DONE THE DAYS OF THE GRAB BUCKET.

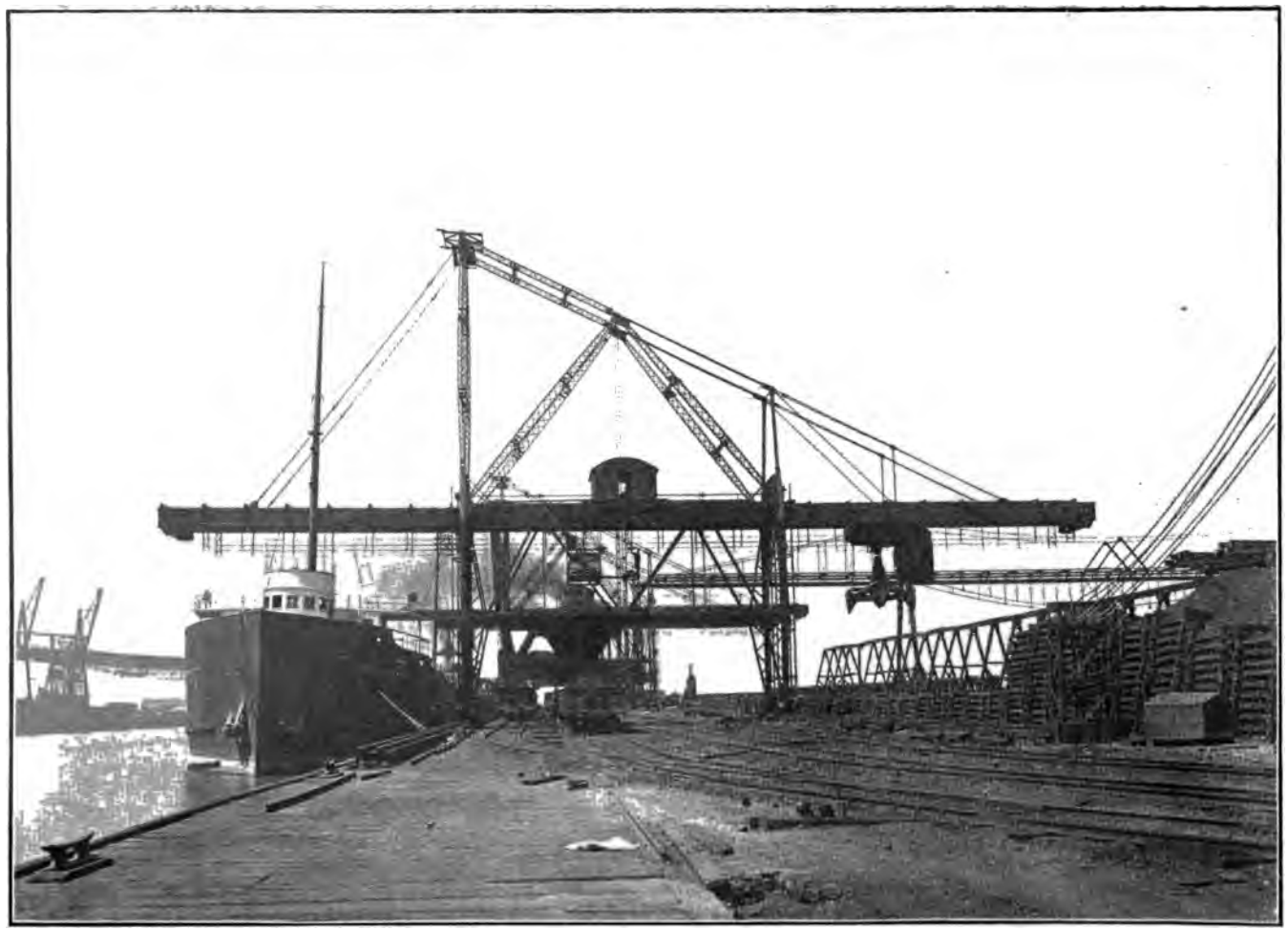
quette ore in the blast furnace. The proportion of fine ore in some of the mines was very large, and in smelting it considerable of this fine ore blew over with the gas. The prejudice against Mesabi ore was as strong as was the prejudice against the soft hematites when they were first introduced. Many exaggerated and some humorous stories bearing on the fine character of Mesabi ore were told, such as how all the boiler fires at one furnace had been put out by the large quantity of flue dust in the gas, and how a train load of 500 tons was caught in a windstorm en route to Pittsburg, only 250 tons finally reaching Pittsburg furnaces. But this prejudice was rapidly overcome and the industrial supremacy of the United States now rests on the firm basis of Mesabi. Though only twelve years old its total shipments have already exceeded those of Marquette, the earliest of all the ranges. The record of the ranges to date is: Mesabi, 122,742,938 gross tons; Marquette, 80,857,801 tons; Menominee, 58,676,485 tons; Gogebic, 50,467,906 tons; Vermillion, 25,100,159 tons, making a grand total with some minor unclassified shipments of 338,173,135 tons.

Meanwhile inventive genius continued incessantly at work to further solve the unloading problem and to perfect the unloading equipment. The McMyler Manufacturing Co. put on the docks a revolving crane with self-dumping bucket attachment which did excellent service. Ore was being hoisted out of the holds rapidly but the tubs were still being filled by hand. The problem was to fill the tubs automatically. This has now been remarkably facilitated by three firms, Hoover & Mason, of Chicago, the Wellman-Seaver-Morgan Co., of Cleveland, and the Brown Hoisting Machinery Co. of Cleveland. Mr. Mason invented an automatic bucket which fills itself in any grade of ore and applying the bucket to a hoisting tower of the same general construction as is commonly used in the unloading of coal. The general features of the Hoover & Mason bucket are its great weight, its tremendous spread when opened and the peculiar movement of the blades when closing. The bucket has a capacity of five tons of ore and a spread when open of about 18 ft. The first motion of the blades on closing is downward to effect a partial penetration of the ore; but during the early stages of operation of closing the blades swing towards the horizontal, giving a scraping action for almost the entire reach. It is this scraping action that differentiates the bucket from the clam-shell or orange-peel type, and it is by virtue of this action which gathers together the loose ore on the pile that the bucket closes itself so successfully.

In 1899 Mr. George H. Hulett, of the Wellman-Seaver-Morgan Co., induced the Carnegie Steel Co. to establish on its docks at Conneaut an unloading machine of his own design. This machine later established the unloading record for the lakes. The Hulett machine is entirely original. A very massive gantry traveling on rails parallel to the wharf supports a carriage which has a traverse at right angle to the face of the dock. This carriage in turn supports a tilting girder at the water end of which hangs a leg carrying a clam-shell bucket. This bucket is rotatable in either direction around the axis of the ram, thus affording the opportunity to reach not only the ore that lies under the hatch opening, but also that portion which is filled up between the hatchways. The leg carrying the bucket is always kept in a vertical position by means of a parallel motion device fixed to its head. When unloading from vessels the carriage carrying the tilting arm moves forward, bringing the arm over the hatchway. The arm is then tilted, the leg descends into the vessel and the bucket is brought into contact with the ore. The bucket is of the clam-shell type with its blades swung from the outer corners so as to give a wide reach. It is operated by a hydraulic cylinder or electric motor and in closing is aided by the unbalanced load of the tilting arm, insuring thereby a full load of ore. The buckets are of ten tons capacity. Each bucket is controlled by an operator who is located immediately above the bucket and who, therefore, descends into the vessel with the bucket. The unloading record of the great lakes was established by these machines on the steamer Augustus B. Wolvin, at Conneaut, in July, 1904. The actual time the Wolvin was under the unloading machines was four hours and thirty minutes, or from 7:22 a. m. until 11:52 a. m. The average time that the four Hulett machines were working on her was four hours



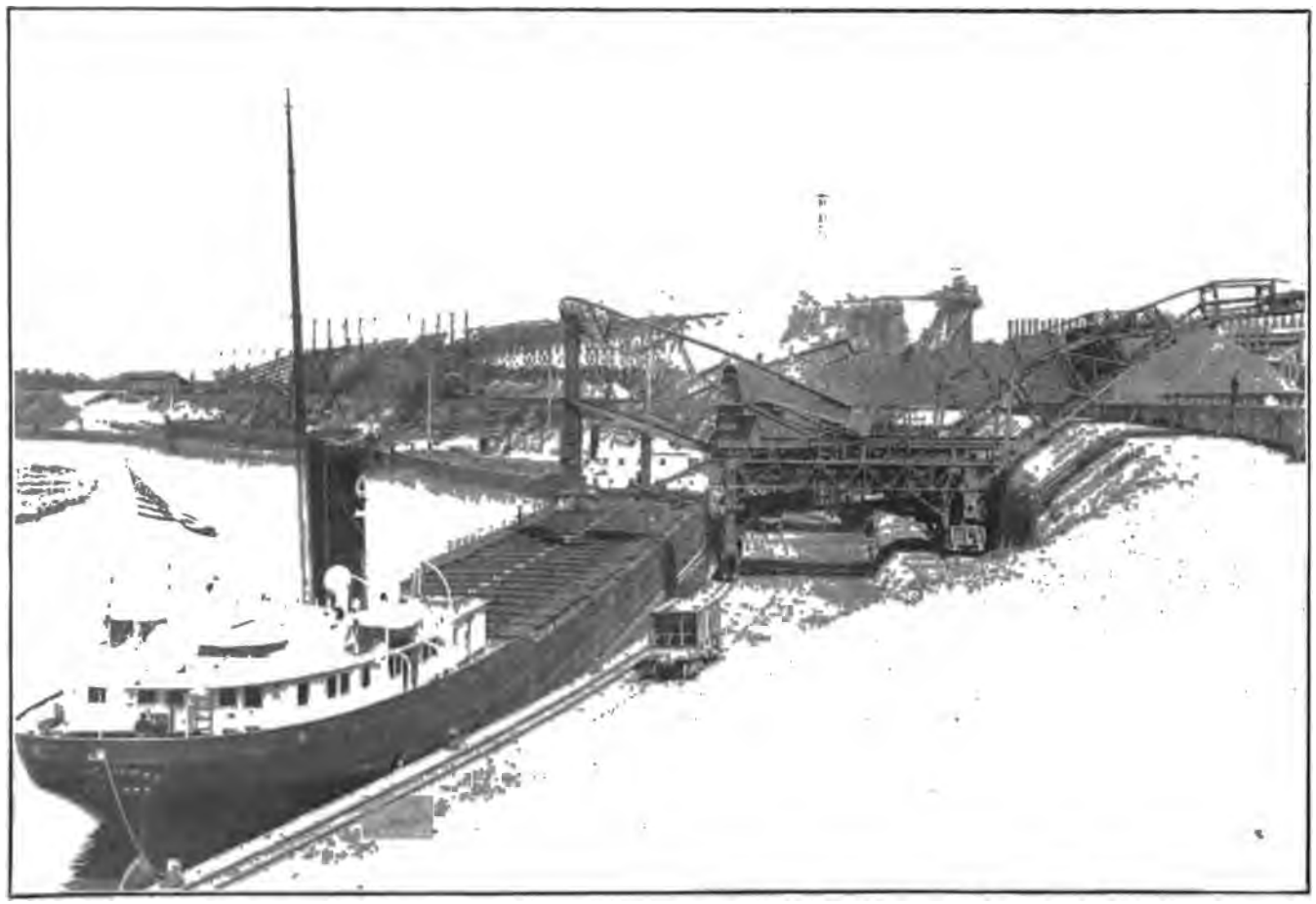
GEORGE H. HULETT.



A FINE VIEW OF THE BROWN ELECTRIC FAST PLANT AT CONNEAUT.



SHOWING THE BROWN BRIDGE TRAMWAYS OF THE BUFFALO & SUSQUEHANNA IRON CO.'S PLANT AT BUFFALO. THIS PLANT IS ELECTRICALLY OPERATED, MAN TROLLEY MACHINES CARRYING THE BROWN PATENT GRAB BUCKETS.



THE NEW HULETT UNLOADING MACHINES AT THE NATIONAL TUBE CO.'S PLANT AT LORAIN.



DEMOLISHING THE ORIGINAL LOCKS OF 1855 TO MAKE ROOM FOR THE GREAT POE LOCK, SHOWING SIDE OF ORIGINAL LOCK.

and six minutes, during which time they took out 7,257 gross tons of ore. The maximum amount taken out in any one hour was 681 tons by the No. 3 Hulett machine. The Wolvin's cargo upon this occasion was 9,945 tons, of which the remaining 2,688 tons was taken out in three hours and forty-one minutes by four electrical machines of the Brown type. This record has now been broken a trifle by these same machines—four Huletts and four



THE BROWN ELECTRICAL UNLOADING MACHINES AT CONNEAUT.

Browns—taking 10,514 tons out of the steamer George W. Perkins in July, 1905, in four hours and ten minutes. This ore was put directly aboard cars, but owing to the fact that some cars begun by one machine were finished by the other, it was impossible to accurately determine the amount taken out by each type of machine.

CHAPTER XX.

SUBSEQUENT LOCKS OF SAULT STE. MARIE CANAL.

LESS interest attaches, of course, to the subsequent development of the canals at Sault Ste. Marie, but as they have regulated not only the growth of commerce but the increasing dimensions of the vessels as well it would be best to outline their growth completely. When the first canal was completed Lake Superior was, of course, a wilderness. There were no cities along its shores, no great wheat fields in the region beyond, and commerce, therefore, increased slowly. The first canal, however, served to fix for many years the depth of water to be obtained in the harbors and in the channels connecting the lakes. The depth of the water in but few of the lake harbors was as much as 12 ft., while in the channels connecting the lakes there were serious obstructions. In the Sault Ste. Marie river a channel several miles long had to be dredged before the limited commerce to and from Lake Superior could make use of the full draught provided at the canal, while the St. Clair flats presented a like obstacle to the far greater commerce passing there. The Civil War which broke out six years after the canal was completed absorbed the energies of the country and all other interests became secondary to it. At the close of the war the principal articles transported by water were grain and lumber. The receipts of grain and lumber at Buffalo in 1866 were about 1,500,000 tons. The receipts of lumber at Chicago alone were about 1,400,000 tons by lake, while the iron ore shipments of all the lake ports were less than 300,000 tons and the coal tonnage but a little greater than that of iron ore.

The Federal government then began to pursue a somewhat more liberal policy toward internal improvements, and plans were executed to make the depth of lake harbors equivalent to the locks at Sault Ste. Marie. This depth of 12 ft., however, sufficed only for a few years. By 1870, or soon thereafter, vessels drawing 13 ft. and upwards could enter the more important ports, such as Buffalo, Cleveland and Chicago, and a demand for a depth of 16 ft. became general. The initiative was again taken at Sault Ste. Marie by a project for increasing the depth from 12 to 16 ft. and building a new



AMERICAN LOCKS, SAULT STE. MARIE CANAL.

lock 515 ft. long and 80 ft. wide, overcoming the entire difference of level of about 18 ft. by a single lift. These dimensions were unprecedented in canal construction and the lift of 18 ft. was almost universally criticised as injudicious.

The improvement commenced in 1870 was completed in 1881 at a cost of $2,200,000. In the meantime the State of Michigan ceded the canal to the United States by act approved March 1, 1881, and the latter assumed control on June 9 of that year. The new locks were known as the Weitzel locks. They were built under the direction of Alfred Noble though designed by Gen. O. M. Poe. Before the increased depth could be made fully available the St. Mary's river had to be deepened in numerous places, the St. Clair flats canal dredged and a cut made through the reef of rock at the mouth of the Detroit river. The 16 ft. channel was completed in 1884. In the meantime the principal harbors were put in readiness and a fleet of large vessels was built to take full advantage of the new facilities. The growth of traffic had been notable. The average annual receipts of grain at Buffalo had increased about 50 per cent. The shipment of coal by lake at the beginning of the period was almost nil; at the end it was nearly 4,000,000 tons, or more than half the entire Suez canal traffic. Iron ore shipments had increased from 300,000 tons in 1866 to 2,300,000 tons in 1884. The number of vessels on the lakes had increased but slightly but the gross tonnage had increased about 50 per cent. Freight rates had fallen remarkably; on iron ore from Lake Superior to Lake Erie ports the rates had fallen from $3.00 to $1.35, and on wheat from Chicago to Buffalo from 9 to 2¼ cents a bushel. The net registered tonnage through the St. Mary's canal had increased 440 per cent.

It has been the history of lake improvements for the past thirty years that they become inadequate even before they are completed. Before the project for 16 ft. navigation had been fully carried out it was clearly seen to be inadequate and measures were taken for increasing it. Largely through the foresight of General O. M. Poe, then in charge of harbor and river improvements between Lake Erie and Lake Superior, the new work was undertaken on a liberal scale.* A new channel was opened through the

*General Orlando M. Poe died Oct. 2, 1895, while lake commerce was in its comparative infancy, yet no man understood its possibilities better than he, and one of the illuminating thoughts of his energetic mind has been again and again referred to by various speakers on lake commerce during the past decade. In January, 1891, he wrote: "For thirty-five years I have watched the increase of the great lakes commerce, but neither I nor anyone else has been able to expand in ideas at the same rate. The wildest expectations of one year seem absurdly tame by the side of the actual facts of the next." That General Poe's vision was prophetic is proved by the fact that at that time the highest point that lake commerce had reached, as measured by the canals at Sault Ste. Marie, was 9,041,213 tons. This truly great man had in his



GEN. O. M. POE.

system of small lakes and straits known as the St. Mary's river, saving 11 miles in distance and practicable for navigation. Indeed, the extent of improvements in the connecting channels of the Great Lakes is much greater than is generally realized. Between Lakes Superior and Huron the aggregate length of new or deepened channels is 20.3 miles and between Lakes Huron and Erie, 21.2 miles. The commerce between Lake Superior and

mind's eye the future commerce of the great lakes more clearly than any other man of his time. It was especially fortunate, therefore, that he should have been selected to plan the improvements to care for this commerce, for he laid his plans upon a comprehensive, far-reaching and mighty scale. So thoroughly identified with lake commerce was General Poe that one is wont to forget his unusually brilliant career during the civil war. A West Pointer, when the war broke out, he accepted the appointment of chief topographical officer with the department of Ohio, and for a time served on General McClellan's staff at Washington. In 1861 he was appointed Colonel of the Second Michigan Infantry. He was in command of that regiment in several battles and commanded brigades at the second battle of Bull Run and at Manassas. In 1862 President Lincoln nominated him to be a Brigadier General, serving in the Rappahannock campaign, and in the battle of Fredericksburg in 1863 he commanded a division of the Ninth Army Corps. Later in the same year he was appointed chief engineer on the staff of General Burnside, participating in the march to East Tennessee and the occupation of Knoxville. During the last two years of the war General Poe served on the staff of General Sherman and a close friendship formed between them. He was with General Sherman on the famous march to the sea and at the surrender of the Confederate army under Gen. J. E. Johnston.

In the general army establishment, General Poe was breveted a Major, July 6, 1864, for gallant services in the siege of Knoxville, and Lieutenant Colonel Sept. 1, 1864, for gallant services in the capture of Atlanta, and on March 13, 1865, was nominated to be a Brigadier General. General Sherman had the highest opinion of Poe. In speaking of him some years after the war, he said: "I considered him one of the most accomplished officers in the army. If I should die tomorrow, he is perfectly capable of filling the place I occupy."

In 1865, General Poe was appointed engineer secretary of the lighthouse board, serving in that capacity for five years. He served as engineer of the ninth and eleventh lighthouse districts for three years and as a member of the lighthouse board ten years. His activities in the lighthouse service extended over eighteen years, during which time he had charge of many important works, and executed them with consummate skill. The lights at Spectacle Reef and Stanard Rock are notable examples of his work. General Poe's chief handiwork on the lakes, however, is at Sault Ste. Marie. It was in 1870 that General Poe was directed to turn his attention to the canal at Sault Ste. Marie. The iron interests of Upper Peninsula had for two or three years previously been clamoring for deeper draught in the locks, as vessels had grown in size and could not pass through the locks loaded to their full capacity. John Burt advocated the deepening of the locks during the winter months, so that navigation might not be obstructed. As opposition was developing in Congress to any appropriation, owing to the fact that the canal was a state affair, preliminary negotiations were entered into for the transfer of the canal to the nation. Before negotiations were concluded, however, Congress authorized a report on the importance of the work based on 14 ft. draught. The making of the report was assigned to Gen. O. M. Poe. General Poe finished his examination on Sept. 20, 1870, and sustained not only all the claims which had been made regarding the importance of the proposed improvement, but even went further and declared that the demands of commerce would warrant the construction of a new lock, or a set of locks, as might be decided upon. He proceeded to prepare the plans for two locks, but after much consultation the plans were finally changed and one for a single lock substituted providing for a draught of 16 ft. The general plans for the work were completed during the administration of General Poe, Mr. Alfred Noble being in local charge as assistant engineer. General Weitzel succeeded General Poe May 1, 1873, and the lock since known as the Weitzel lock went into commission in 1881. At the time of its completion, the Weitzel lock was the most splendid engineering structure of its kind in the world. Capacious as it was, however, it was not adequate to care for the rapidly growing commerce of the lakes.

Lake Erie aggregating 35,000,000 tons per year passes through all of these, a total of 41.5 miles of artificial waterway. This is five miles greater than the length of restricted waterway to be made for the Panama canal. These improvements included a deepening of the St. Mary's canal to 25 ft. and the building of a new lock, now known as the Poe lock, 800 ft. long and 100 ft. wide, with 20 to 22 ft. over the mitre sills. It was begun in 1888 and completed in 1896. It is the largest lock in existence and yet it had scarcely been finished before it was realized that it was really too small. When it was projected it was expected that four vessels could be locked through it



THE GREAT CANADIAN LOCK AT SAULT STE. MARIE.

General Poe returned to the lakes in 1883 and with fine imagination laid broad and deep the plans for future development. Indeed, in a formulative way they had been in his mind since 1871. So comprehensive were they that although he has been in his grave for twelve years, the projects for improving the channels for the lakes that are still being authorized by Congress, are upon his original design. His handiwork is to be observed from Sault Ste. Marie to the Lime Kiln Crossing, between which points he caused to be constructed an artificial waterway of over forty miles, an artificial cut, longer in fact, than is proposed for the Panama Canal. His crowning monument is the Poe lock at Sault Ste. Marie, the largest structure of its kind in existence. In September, 1895, General Poe was summoned to Sault Ste. Marie to examine a break in the lock. The damage proved to be a trifling matter, but in making his inspection General Poe slipped and scraped his left leg badly. Returning to Detroit it was found that blood poison had set in and he died a few days later.

Speaking of his work, the inspector general of the army wrote in 1902: "The magnitude of the work and the intricacy and precision of detail was a revelation to me. I could find in the methods adopted by Colonel Poe as applied to the works under his charge, and his personal knowledge and control of the details, nothing wanting in thoroughness and efficiency. I cannot close without referring to the great responsibility resting on the shoulders of this officer—a responsibility of a character which cannot be well understood or appreciated except from a personal knowledge of this great work."

at once. It had hardly been finished before it was seen that not more than one of the modern vessels could be locked through at one time, so rapid has been the increase in dimensions of the lake steamers.

The Poe lock was projected on the site occupied by the original locks built by Charles T. Harvey. General Poe felt some compunction over the necessity of destroying these old locks, for in his report to the government he writes:

"On the whole, the canal was a remarkable work for its time and purpose. The construction of the locks especially bore evidence of a master's hand in their design and execution, and it is no reflection on the engineer in charge that experience developed certain objectionable features. These



INDIANS FISHING IN THE RAPIDS.

locks are now being torn out to make room for a new one, and every step in their destruction reveals the excellence of the workmanship, the honest character of the materials employed and the faithful compliance with the conditions of the contract under which they were built, not merely in the letter but in the spirit. All honor, then, to every man connected with their design and construction. They were long in advance of their day, and if commerce had not outgrown their dimensions they would have done good service for a century. I must confess to a feeling of great regret that it has become necessary to destroy these first locks. Inanimate though they were, they seemed to appeal to every sentiment of respect. They had never failed to respond to any demand within their capacity; they had contributed in a higher degree than any other one feature to the development of the

country to the westward of them, and having done such good work are now to be obliterated in the interest of that very commerce they did so much to establish. The man who, knowing their history, can see them go without compunction is made of other stuff than I am, and if an engineer has no genuine love for his profession nor pride in the achievement of those who successfully apply its teachings to the best examples of his art."

When the Poe lock was building the Canadian government decided to have a canal of its own on their side of the river, and built it at a cost of about $4,000,000. The lock is 900 ft. long, 60 ft. wide and 22 ft. deep. It was opened to navigation in 1895. Ten years later, or in 1905, the first bulk freighter appeared that was too large to pass through this magnificent lock. This was the steamer William G. Mather, of the Cleveland-Cliffs Iron Co.'s fleet, which was built with a beam of 60 ft. Three others have since appeared, the L. S. DeGraff, W. M. Mills and William B. Kerr, of the Weston Transit Co.'s fleet.

Doubtless other vessels of similar or greater beam will follow rendering useless this magnificent structure as far as they are concerned and proving that it is impossible to adequately gauge the growth of the lake steamer even a few years ahead.

The lockage facilities of Sault Ste. Marie now comprise three important locks, each overcoming the entire difference of level at the rapids and each equipped with hydraulic or electrical machinery for all operations. Plans are now being prepared for a greater lock than ever on the American side.



THE APPROACH TO SAULT STE. MARIE CANAL.

CHAPTER XXI.

FRANCIS H. CLERGUE AND HIS INDUSTRIES.

NOW comes a part of the story which shows with what ridiculous ease money and modern methods may accomplish in a few months what cost the hardy pioneers of the Marquette district infinite toil and hardship and years of unremunerative labor. In the summer of 1897, Benjamin Boyer, a prospector searching for gold in the Michipicoten country 125 miles north of the Sault, found an outcropping of hard hematite. As he had no funds with which to explore the deposit he went to Sault Ste. Marie and offered to point out the location to Mr. Francis H. Clergue for $500, submitting at the same time samples of the ore. The chance was easily worth the sum asked. Diamond drills were later taken to the property and examinations made both in the land and through the ice of an adjacent lake, now known as Boyer lake, at whose bottom, 120 feet down, the ore was found to continue.

It was August, 1899, when it was decided that the iron must be utilized. A scow loaded to the guards with tools, supplies, horses, workmen and engineers was towed from Sault Ste. Marie to the perfectly landlocked bay of Michipicoten, and the engineers spent the first day in cutting a hole in the forest large enough for their tents. The ore lay twelve miles to the northward over as difficult a country to journey as one might possibly imagine. The conditions were similar to those which confronted the Cleveland and Jackson Iron Mining companies in 1849 when Peter White landed at Marquette. The ore of the Marquette range also lay fourteen miles from the lake over mountainous country. Probably no more illuminating picture of the advance of a half century could be presented than that which is afforded by the mere contrast of the development of the Marquette and Michipicoten ranges. The very next day after Clergue's engineers landed at Michipicoten Bay they began a survey to the mines and the laborers began the grade. They had a wilder country to work in than the Marquette pioneers because it was far more mountainous. Winter was coming on—it comes on early in the Lake Superior country—and every article needed,



MR. FRANCIS H. CLERGUE.

from steam shovels to locomotives, would have to be landed in the wilderness before winter put its seal upon the only avenue of communication open to them. Supplies not on the ground by November were not to be had at any cost till April. Neither food nor men could be obtained in the interim.

When Clergue's engineers began the task in August the forest loomed an apparently impenetrable wall before them; the hills rose almost straight from the water's edge and the entire country to the mine was a succession of gaping fissures, vast upheavals of rock and deep water courses. Eleven months later, or to be exact, on July 12, 1900, the first cars of ore passed down and out of the open mine over a track laid in 80-pound steel rails in cars of 50-tons capacity pulled by 110-ton locomotives. The ore was dumped into pockets of a dock that had been constructed during the winter in Michipicoten harbor, and from these pockets it slid by means of chutes into ships that had been purchased in Britain for the purpose. What a



MICHIPICOTEN HARBOR.

contrast this furnishes to the little strap railroad of fifty years ago with its little cars of 4-tons capacity, laboriously pulled by mules. The Helen mine on the Michipicoten range, named after Mr. Clergue's sister, shipped about 50,000 tons during its first season; on the Marquette range they could not haul ore at all in the summer time owing to the roads and work as hard as they might with sleighs during the winter they could never get a stock pile on the docks by spring of more than 1,000 tons.

Francis H. Clergue is the great industrial captain of Sault Ste. Marie. His was the primal force in the development of the new Ontario and no one will ever be able to rob him of that distinction. In the management of the work which he established others may come and go and be forgotten, but Clergue will always be remembered as the bold and original man who founded an industrial empire in the Canadian wilderness. It was he who changed the countenance of Sault Ste. Marie and made its physical aspect so distinguished from what it was when Johnston wooed and won his bride.

Subtract Clergue and the face of things would not have materially altered since Johnston's time; add him, and a hundred enterprises including rolling mills, steel works, pulp mills and railways spring into being. It is regretted that only hurried mention can be made of him in this work. Clergue was about thirty-five years old when in 1893 he went west at the solicitation of some Philadelphia friends to search for some available water power that might be developed. At that time capital was being generally attracted to the tremendous possibilities of water power. Clergue visited a number of places and finally in his journey reached Sault Ste. Marie. He was immediately impressed with the possibilities of the place for water power development. The St. Mary's river had a fall of from 17 to 18 feet, and Lake Superior was its inexhaustible mill pond. On the Canadian side he found a



THE GROUND WOOD PULP MILL.

small and practically abandoned water power canal, the charter of which he had little difficulty in securing. The canal was rapidly placed in working order and in a short time the company had 20,000 horse power for sale. To Clergue's very great surprise nobody wanted any water power. The panic of 1893 was on, and capital would neither develop old enterprises nor invest in new ones. To save the improvement already made, Clergue turned his attention to utilizing the water power himself. It was clear that in a settlement as remote from the center of population as Sault Ste. Marie, an enterprise to be successful should proceed upon the principle of utilizing the raw materials at hand. It was natural, therefore, that Clergue should turn

his attention to the woods. He conceived the idea of making paper pulp. He was aided in this by previous training, because he had been identified with paper mills about his home in Maine as a young man. A pulp mill with a capacity of 100 tons a day was erected to turn out wood pulp. Wood pulp was then shipped wet to the paper factories, and in addition to the added cost of freight on 55 per cent of water, there was the loss caused by decomposition. This circumstance naturally limited the market, and the paper makers of the great Wisconsin district looked at the Sault Ste. Marie plant as a valuable adjunct to them in the way of furnishing raw material but of no particular importance to its own stockholders. In fact, during the hard times succeeding the panic of 1893, there was no active demand for pulp and as it had to be stored wet it spoiled on the company's hands. This



THE GREAT POWER CANAL ON THE MICHIGAN SIDE.

obstacle to winning a profit from the business set Clergue to thinking, and he turned the question over to the mechanical experts of the company to discover whether pulp could be manufactured dry. The result was the invention and installation of drying attachments which worked with perfect success. Instead of a market confined to a contiguous state or two Clergue found the whole pulp-consuming world at his feet. Dry pulp can be shipped any distance without loss and, in fact, the company was soon filling orders from Europe and the Orient. This industry has become extremely profitable owing largely to the natural advantages in manufacture, the enormous



GENERAL VIEW OF LAKE SUPERIOR CORPORATION'S WORKS.



VIEW SHOWING GENERAL OFFICE BUILDING, BROWN WOOD MILL, MACHINE SHOP, CHEMICAL LABORATORY, SULPHITE MILL, REDUCTION WORKS AND STEEL PLANT IN DISTANCE.

and practically free supply of spruce wood and the cheap and excellent power furnished by Lake Superior. The pulp mill is one of the largest in America and its output is welcomed by the paper makers because it is always clean and white, the water from Lake Superior being one of the sweetest and clearest known and uniform all the year round. Moreover, the plant is operated on the principle of water power itself, which never stops. The mill is running night and day and uses about 14,000 horse power continually. Later a sulphite mill was erected for the manufacture of chemical pulp which is more valuable than ground pulp. The sulphite mill soon reached a capacity of 70 tons a day. Nickel mines were bought in the Sudbury district, 100 miles east of the Sault, from which to obtain sulphur



HEAD GATES, POWER CANAL, MICHIGAN, LAKE SUPERIOR POWER CO.

and the Manitoulin & North Shore Railway was projected to reach it and other contiguous nickel deposits.

Clergue determined to preserve everything at Sault Ste. Marie that would be of historical interest. In buying the old Hudson Bay Co.'s station for a mill site he rebuilt the old block house upon it and used it as his home. The stone walls are those built by the Hudson Bay Co. more than fifty years ago. The old loop holes remain. The upper, or overhanging portion, made of logs, had to be rebuilt, but the original design has been preserved.

One of the greatest of Clergue's enterprises was the construction of the power canal on the Michigan side of the St. Mary's river. This canal is 2½ miles long from the mouth of the intake above the rapids to the overflow far below the entrance to the ship canal. Like an immense river 220 feet

broad and deep enough to float the deepest vessel that sails the lakes, it serves to convert the city of Sault Ste. Marie into a city of two parts, with the island part now completely surrounded by water as the business section, and the balance of the city given over to the residences of its citizens. Its average width is 224 ft. and its depth 22 ft. This great canal in its course through the city traverses thirteen streets and is spanned by a number of fine steel bridges. At the lower end the canal widens out into the forebay, or millpond, for the purpose of securing sufficient frontage for the uniform distribution of the water to all of the turbines which are installed along the river face of the forebay in the power house. The river front of the forebay is closed by the power house, the duplicate of which cannot be found in



THE CHEMICAL LABORATORY AND SULPHITE PULP MILL AT SAULT STE. MARIE

the United States, and which, more than any other structure, contributes to the turreted and embattled aspect which Sault Ste. Marie now presents in contrast to the days when existence there was dream-like and romantic. This power house is constructed of red sandstone, is over a quarter of a mile in length and 100 ft. wide, and is 125 ft. high. This massive structure rests upon a foundation of piles covered by log sills and caps and covered with Portland cement concrete to a depth of 3 ft. The substructure consists of 81 masonry walls 100 ft. long, 20 ft. high and 3 ft. thick. The stalls or pits thus formed, aside from supporting the building, serve to deliver the water

from the turbines into the river. The penstocks are all of uniform dimensions, 40 ft. long, 15 ft. wide and 20 ft. high. The dynamo floor occupies space on the same floor on the river side of the power house. The floor above is used for the machinery which converts the energy of the water into electrical power. The energy converted by this great canal is estimated at 40,000 H. P., which is developed by 320 turbines. Four of these turbines in pairs are placed in each penstock. All of the turbines are joined to one high shaft of pressed steel. Thus the power is produced to turn the dynamos awaiting on the floor above. The electrical equipment of the power house consists of eighty dynamos, and the power thus generated is transmitted by means of wires to the doors of the various plants purchasing it.

An interesting feature of the canal is the big movable dam constructed at the head of the canal to control the volume of water. This dam is made up of four leaves 50 ft. long and 28 ft. high, suspended from and operating between piers of solid masonry. When the water is entering the canal freely these leaves are suspended, and when it is desired to stop the flow, the leaves are lowered against a sill in the canal bed.

Naturally, no such engineering work as this, designed to relieve Lake Superior of 30,000 cu. ft. of water per second twenty-four hours a day, 365 days a year, would be permitted to be constructed without assurances that the interests of navigation, which are paramount, would be safeguarded in every way. The actual construction of this canal had proceeded well along towards completion before the attention of the Federal government was drawn to it. Before water was turned into the bed of the canal the subject was brought to the attention of the Rivers and Harbors Committee, at Washington, and Clergue had his engineers there present a plan to quiet all objections of the vessel interests. This plan involved the construction of compensating works at the head of the rapids just west of the International bridge. These works are designed to stop as much of the flow of the rapids as will be taken through the power canal. The compensating works consist of a monolithic concrete breakwater with steel gates, and in addition a submerged dam. When lowered the gates practically stop all flow of water and they can be raised to their full height in six minutes. The importance of these compensating works is not confined to the special purpose for which they were built. Leading engineers are of the opinion that they really present the first step towards conserving the level of the lakes, a subject which must eventually become of primary importance to the interests associated with the Great Lakes trade, since the level of the lower lakes has for several years been steadily declining.

Meanwhile the Algoma Central Railroad was being pushed steadily

north from the Sault to connect with the Canadian Pacific 200 miles away and with the ultimate intention of reaching Hudson Bay, 500 miles away. For the projection of this railway, together with that of the Manitoulin & North Shore Ry., the company received great grants of land and practically a million dollars in money from the Dominion government. A grant of 1,650,000 acres was given in consideration of projecting the Algoma Central to tap the Canadian Pacific trunk line. For the stretch of 300 miles beyond the junction of the Canadian Pacific, the Dominion government offered a grant of 3,000,000 acres of land. This was indeed an empire in itself. These



THE BLAST FURNACES AT SAULT STE. MARIE.

grants from the government include the mineral and timber rights and constitute assets of enormous potentiality. The timber on the land is largely spruce, and as spruce is indispensable for paper making and is becoming somewhat scarce elsewhere the value of this single asset is great. There are also splendid growths of maple, birch and other hardwood adaptable for the manufacture of fine furniture. Clergue put into the field hundreds of expert mineralogists, geologists and woodsmen, locating bodies of timber

and favorable mineral bearing lands and verifying and correcting previous information from all sources.

A fine laboratory was established at the Sault in which the company tested any minerals brought to it from any part of the country near its operations. Twelve chemists were constantly employed in analyses and experimentation. The completeness of the technical library in connection with the laboratory may be indicated when it is said that one hundred technical publications, monthly and weekly, were received, were repaged consecutively, completely indexed, and bound.

Correlation is one of the significant characteristics of Clergue's mental make-up, and having acquired iron mines it was natural that he should desire a blast furnace; and having a blast furnace, steel works would naturally follow; and as the Dominion was extending its railways rapidly, it was inevitable that a rail mill should be added to meet the demand. Clergue established at Sault Ste. Marie a Bessemer steel plant and rail mill under the corporate name of the Algoma Steel Company. The entire mechanical equipment of this plant was installed and was practically ready to run at the end of 1901, but owing to delay on the part of contractors for the structural work and the lack of girders and columns to support the cranes without which the mill could not be operated, it was impossible to put the plant in operation until 1902. The starting of this mill was an event of no little importance in the history of Canada, as it marked the rolling of the first rail in the Dominion of Canada of steel made from Canada pig iron, smelted from Ontario iron ore. The steel was unfortunately not of Bessemer quality. Two furnaces, one for the use of charcoal and the other for coke were under construction, and the steel works for a short while during 1902 ran on purchased pig iron. There were difficulties, however, in the way of running a steel works with purchased pig iron in insufficient supply, and the company finally closed the works until its own furnaces could be put into blast. Moreover, the bounty which the Canadian government was paying could only be earned on steel as the pig iron bounty was paid only on pig iron made from ore mined within the Dominion.

The steel works and rail mill, however, are among the finest in the world. The construction of the plant is such that material can be handled at a minimum labor cost and an unusually large output per man is thus obtainable. The availability of electric power at much lower cost than steam is one of the great advantages enjoyed by this plant. Certainly no plant in the world had the advantage of such cheap power as this with Lake Superior harnessed in a canal at its doors. Adjacent to the blast furnaces and steel works, a battery of twenty by-product retorts was constructed with all

the necessary equipment for recovering the products of distillation. In the operation of the charcoal retorts the recovery of the waste products—acetate of lime and wood alcohol—were practically made to pay the cost of making the charcoal. In addition to these by-products, bee-hive kilns were built on points of the Algoma Central Railway where supplies of hard wood could be obtained to the greatest advantage.

Clergue attacked his various problems with the utmost energy. Lake Boyer, on the shore of which the Helen mine is located, he caused to be drained and developed the property in such manner as to make it possible to win the largest amount of ore in the shortest space of time. Shafts were



GENERAL VIEW OF BLAST FURNACES AND WATER APPROACH.

sunk and at different levels workings were extended into the solid body of ore. A second deposit now known as the Josephine was discovered ten miles beyond the Helen mine, and the railway was immediately extended to it. There were none of the troublesome questions of finance and equipment to be met with that had bothered the Marquette pioneers. The means were at hand and the railway was constructed within a few months.

In the Sudbury region work was steadily pushed forward on the nickel property. Large amounts of nickel ore were raised both from the Gertrude and Elsie mines. The first smelter at the Gertrude mine was put into operation in June, 1902.

Sawmills and veneer mills were established to utilize the hardwood

timber on the company's grants of land. Only those parts of hardwood which could not be worked up into fine furniture were used in the charcoal kilns. The veneer mill, the only one in Canada, had sold its product for months ahead to makers of fine furniture and from its own natural advantages, cheap raw material and cheap power, was capable of earning an enormous percentage upon its own investment.

An electric light plant was constructed at Sault Ste. Marie to light the towns. Street railways were built and water works established, the subsidiary companies deriving power from the canal.

A Hulett automatic unloader, electrically driven, was installed on the dock at Sault Ste. Marie to take ore from the vessels.

With ore from its own mines, brought in its own ships, fuel from its own lands carried on its own railway, with a large government bounty, with the cheapest known power on earth and an abundant market, the Dominion government at that time being actively engaged in the projection of new railways and with the necessity for the renewal of some 18,000 miles of railroad then existing, Clergue had reason to look forward with confidence to the future of his business.

Clergue went to the Sault in 1894. He found it a primitive settlement with no industries whatever. He left it eight years later with machine shops and foundries splendidly equipped, blast furnaces with the most modern and improved devices for unloading and charging the stack, with rail mills whose economy of operation is the delight of the practiced engineer, with saw and veneer mills, sulphur reduction works, with car shops, brick yards, street railways, ferry lines, freight and passenger steamers, with the Algoma Central & Hudson Bay Railroad in operation for 106 miles and graded for 99 more, with the Manitoulin & North Shore Railway in operation for fifteen miles, with iron ore and nickel ore mines in complete development, with great power canals and power houses in complete operation, and with numerous subsidiary enterprises springing up around him.

The great Michigan power canal had taken six years time and had cost $6,500,000; the blast furnaces and steel mills had cost $4,500,000; the railways and ships had cost $9,500,000; the pulp mills $1,000,000; the mining properties $1,000,000; the ferro-nickel works $500,000, and other sums making the aggregate cash investment approximate $25,000,000.

Clergue's ability in organizing was so great and his faith in the natural resources of Canada so steadfast that he won completely the confidence of the Dominion government. No man had greater influence at Ottawa than Clergue and he got all that he ever asked for. He agreed to settle annually 1,000 immigrants in the wilderness of Algoma and he had 2,000 men chop-

ping wood for him continually in the country north of Sault Ste. Marie. He had molded a group of industries into a beautiful system, one feeding the other, so that no profit in the various processes of manufacture escaped. The whole plan, even if extravagantly executed, was nevertheless well thought out and will yet prove the wisdom of its founder. Disaster fell upon Clergue at the very moment when he had least cause to expect it. The last plant to complete the group of industries had practically been completed when the financial crash was precipitated. Had he been granted a little more time, had capital to operate been given as freely as it was to establish, Clergue could doubtless have got the group working as a unit, but during his whole connection with it the company cannot be said to have



THE RAIL MILL AT SAULT STE. MARIE.

been a going concern at all, since his whole energies were consumed in the construction of the correlated plants. He never saw them in operation as a unit though it is as a unit that they must be operated to produce the greatest profit, since one is dependent upon the other. Clergue was practically superseded in the management of the property in the fall of 1902.

Clergue's habit of thought is not that of the ordinary promoter, who in projecting enterprises invariably seeks a quick return in profits. Clergue pushed his enterprises from the other direction. He believed in solidity as the primal requisite. The consequence is that the works at the Sault are built to remain. They are as impregnable as fortifications, and fifty years hence their construction will stand for tens of thousands of dollars per annum in the profit and loss account. In their turreted, castellated and em-

battled appearance they remind one of the architecture of mediæval Europe.

Expectation of profits on the Clergue enterprises at the Sault have been deferred, it is true, but they have never been disproved. There may have been and probably were grave initial errors in the construction of some of the plants. Money was doubtless spent freely in the establishment of new works before the old ones were brought to a paying basis, which eventually made their finances hopelessly inadequate to the complete and successful operation of the plants and finally led to their sale for a fraction of their original cost.

But the assets, non-existent ten years ago, that Clergue has left are vast, not the least of which are the 1,800,000 acres of land already earned, covered with splendid forests of pine, spruce, maple, birch and oak, which when cleared is well adapted for farming, and much of it, moreover, mineralized with many deposits of copper, iron and gold known to exist; then again, there is the absolute control of the water power of Lake Superior, since the company controls the riparian rights above and below the rapids. These are assets the potentiality of which for gathering riches are, as Dr. Johnson would say, "beyond the dreams of avarice."

CHAPTER XXII.

PETER WHITE'S MONUMENT IS PRESQUE ISLE.

ONE of the most beautiful edifices in Marquette is the chapel built of brown stone, which adjoins St. Paul's Cathedral. It was built by Peter White in memory of his son Morgan. This chapel, which is known as the Morgan Memorial Chapel, has never been consecrated, as it is the wish of Peter White that it should be available at all times for the use of the guilds for entertainments, both musical and dramatic. Mr. White is personally an Episcopalian, but his purse from his slenderest days has been undenominational. He has assisted in the establishment of every church in Marquette —Methodist, Presbyterian, Roman Catholic, Lutheran and others. He was instrumental, too, in founding St. Luke's hospital.

Many things has Peter White done for the upper peninsula of Michigan; many things doubtless will he yet do. Marquette in return is speaking of a monument to him, but his real monument is his own handiwork and its crowning figure is Presque Isle. This is a tract of land densely wooded, 328 acres in extent, and is, as its name signifies, "almost an island." It lies a little to the west of Marquette harbor. It has a rock-bound shore which lends itself to rugged and picturesque effects. Some of the formations, particularly Arch rock, are most unique.

"What a park it would make," soliloquized Peter White.

But alas, the government had reserved Presque Isle for light-house purposes and government is inclined to be set in its ways. It presents the most frowning aspect to any suggestion of change from its customary method of doing things. It has a special and particular horror of establishing a precedent. The light-house board, having established a station on Presque Isle, that island was forever dedicated, as far as the light-house board was concerned, to that purpose. The light-house board would regard any suggestion that it be used as a park as little short of anarchy. Having been once a light-house station it could never be anything else—things go on the same year in and year out in Washington. Peter White could see the rock-ribbed, green-topped island from his study.

"Moffatt," said he, "why can't we have that as a park?"

Moffatt—he was the peninsula's congressman—was speechless at the suggestion. It was an involuntary reflection of the attitude of the light-house board on his part. He knew that that was the way the light-house board would act when the subject was broached to it—stiffen and freeze at once.

"It can't be done," said Moffatt.

Peter White packed his grip and went to Washington and saw the members of the committee on public lands of the house. They were all very glad to see him—the six Democrats and seven Republicans—but they were very sorry indeed that nothing could be done for him.

"Can't do it," said the six Democrats and seven Republicans in chorus.

"Will you report the bill favorably if the senate passes it?" asked Peter White.

As there was no hope in the minds of the committee that the senate would pass it, they unanimously agreed to this proposition. Peter White went into Senator Tom Palmer's room in the senate wing of the capitol. Palmer knew him of old and was genuinely glad to see him. The story of Peter White's life was an old one to Palmer, but the incidents in it were ever new. He told what he wanted as simply as he could.

"I am going to get a couple of senators in here," said Palmer, "and you repeat to them just what you have told me."

Palmer went out and accosted two or three senators. Peter related his unselfish mission to them. The story wasn't much, but the man back of the story loomed up a gigantic figure before them. It wasn't what he said about the beauties of the island that moved them; it was the knowledge that here was an original character that had hewed a city out of a wilderness; that had cheerfully submitted to untold privation and hardship in order to give the iron frontier the benefit of a civilized life; that had time and again plunged into a desolate waste in the dead of winter to snatch a few comforts for his fellow beings. It wasn't what he said that had carried them away; it was the force of forty years of incessant toil and manly living. Senators straggled in by twos and fours and met the northern stranger. In the face of such service as he had rendered to the country, Presque Isle seemed to them a pretty small recompense. Time-honored practices and fear of precedents were flung aside, and the bill giving Presque Isle to the city of Marquette for park purposes was passed at once. The breath of the committee on public lands of the house was nearly taken away, but the members were true to their promise. They recommended the bill and it passed the house

promptly. Peter White got the president to sign it and he returned to Marquette with a draft of it in his pocket.

The bill contained the natural provision that the park was to be accepted by the council of Marquette and maintained by the city. The usual obstructionist was in the council. He made a fiery speech in which he declared that the park would benefit only the rich and that the citizens of Marquette would be forever saddled with the expense of keeping the driveways in condition for those who rode in carriages. The workingman would get no pleasure from it whatever. He pictured the oppressive nature of the burden so zealously that the council actually decided to reject the gift. At the next meeting Peter White appeared before them. He was sorely vexed that the city was to be deprived of so magnificent a pleasure ground through the shortsighted policy of a council.

"I understand, gentlemen," said he, "that your only objection to accepting this park is the cost of its maintenance."

"Yes, sir," said the spokesman.

"I will not argue with you tonight how mistaken you are," said Peter White, "in declining a gift which will eventually be of the greatest boon to the workingman and which will provide an eternal pleasure ground for your children and your children's children. I will, however, meet the only objection which you have raised. If you will accept the park I will personally pay the cost of its improvement and maintenance during the next five years."

The park was accepted instantly. Usually when men devote great sums of money to improvements of this character an ulterior motive is likely to obtain. They may hold contiguous property which will be greatly improved thereby. But Peter White held no property contiguous to Presque Isle. There is no available property contiguous to Presque Isle. It is all unreclaimed. The first thing that Peter White had to do was to build a roadway a mile or more long across this unreclaimed stretch. Water to a depth of a foot or two had to be filled in and the roadway built upon it. That cost $30,000. The improvement and maintenance of the park cost $35,000 in addition, a generous and unselfish contribution. The effect, however, has been to make the whole city of Marquette a park. Presque Isle is a lovely spot today and has an extensive and well-kept zoo upon it.

In 1893 Peter White was appointed one of the World's Fair commissioners, and to his energy is due the extraordinary mining exhibit that Michigan made at the fair. Tons of metal were transported to the fair, and

there was reproduced out of the material strata showing the formation of mineral deposits in the earth.

As an illustration of how little things may affect the current of one's life, the visit of Judge Matthews to Marquette is given as evidence. The Indians were adepts in making models of birch bark canoes, but the gradual elimination of the Indian has eliminated also their handiwork. Birch bark canoes are becoming very scarce but the judge was anxious to obtain one. Seeing a beautiful little model of one in the First National Bank, he asked Peter White where he might get one.

"You may have this one," said Mr. White.

"I do not want that one," answered the judge. "Where will you get another?"

"The Indians may as well make me one," replied Mr. White. "I've got to support them anyhow."

The judge took the model and the incident might have been regarded as closed. But later it became necessary for the judge to appoint a master in chancery for the Pewabic Copper Co., and the parties to the suit were unable to agree upon a proper person to act.

"If you fail to reach any conclusion I have a man in mind," said the judge. "His name is printed on that canoe with different colored porcupine quills in letters an inch high—Peter White, Marquette."

The parties agreed to the selection and Peter White was appointed master in chancery for the Pewabic Copper Co. He later sold the Pewabic mine to Mason & Smith, of Boston, for $710,000.

When the state of Wisconsin placed a marble statue to Father Marquette in the rotunda of the capitol at Washington, A. E. Archambeau, president of the St. Jean Baptiste society, suggested to Peter White that it would be fitting to have a bronze replica made for the city of Marquette. Mr. White heartily approved of it and undertook the labor of getting the necessary subscriptions. The statue was unveiled at Marquette, July 15, 1897, with appropriate ceremonies, Hon. Don M. Dickinson making the principal speech. Later Peter White put an oil painting of Don M. Dickinson in the court house of the county which is named after Mr. Dickinson, in the upper peninsula.

When the Cleveland company celebrated the semi-centennial of its incorporation in 1900, it was Peter White who made the chief address. He recounted the development of the company from its earliest days; of how it was the only company that was prepared to ship any ore through the canal

when it was finished in 1855, and how it had continually shipped ore through since, more than 1,000,000 tons some years, and how it had extended its operations into the various collateral enterprises, such as the making of a fine grade of charcoal pig iron, and had become the greatest of all the independent companies in the peninsula—meaning, of course, by independent companies those iron mining companies which are not affiliated through ownership with steel-making concerns. For this is a form of ownership which has latterly swallowed a number of individual undertakings, so that today the steel-making companies are the largest owners of the iron mines of the Lake Superior country, and the largest owners of lake vessels as well. He told also



PETER WHITE DELIVERING THE ADDRESS AT THE CLEVELAND CO.'S SEMI-CENTENNIAL

of the struggles of the pioneers, of which he was the participant, and of which he is the living witness—and it was very, very interesting indeed.

The University of Michigan conferred upon Peter White the title of M. A. in 1900. The newspapers had it LL. D., which caused Mr. George H. Russel, of Detroit, to write to him as follows:

"I have some misgivings and fear that the new title which comes to you will bring with it such added dignity that you must necessarily refrain from being the same old Peter White and give up your good French stories and other things and put on, as becomes a learned doctor of the law, a black stock, silk hat and cotton gloves."

In the spring of 1902 Peter White was nominated for regent of the University of Michigan and was elected the first Monday in April by the highest number of votes of any man on the ticket.

No man has greater influence in Washington than Peter White; nor is any man more welcome to the senators and representatives. He has kept them up half the night with his stories. General Grosvenor relates an incident at a dinner party where he and several other representatives attended with Peter White, and they were surprised to discover after listening to a number of his French stories, that it was two o'clock in the morning. Dr. H. C. Potter says that he never knew a man who could tell a story that was funny enough to stop a railroad train until he met Peter White. Whether he is entertaining senators and representatives or stretching his legs under the mahogany of the president of the United States at the White House, which he frequently visits, he is not telling stories for the story's sake alone. There is always some ulterior purpose, some kind intention, some unselfish act for the betterment of the upper peninsula.

It has been a labor of love on his part to cherish and develop the little library which he started in 1872. It grew gradually, new quarters being provided as the expanse of the library exceeded the limits of the old one, until he set aside a portion of his bank building for the use of the library, and after decorating it, offering its use free to the city. But the library passed from larger to larger quarters until it became apparent that it would need a home of its own. Through the generosity of a few leading citizens, headed by Peter White, a new library building was erected and dedicated to the public in September, 1904. The new structure, which is known as the Peter White Library, is an imposing building of Bedford limestone. It was erected at a cost of $47,000, exclusive of the land. The Bedford limestone is white and makes a striking building with the red tile roof. The interior is of marble and weathered oak and the whole effect is beautiful. It is expected that the library will answer the requirements of Marquette for a great many years. The city of Marquette placed a marble bust of Peter White in the library in honor of the founder. Some years before when Andrew Carnegie had called upon Peter White during a visit to the iron mines, Peter had suggested to him the founding of a library in Marquette, and offered to surrender the name of Peter White if he would establish one. But Carnegie, willing as he is to give libraries to deserving communities, would not listen to it. He felt that Marquette belonged to Peter White and that she had been well cared for in that particular respect by him.

There has been but lately established at Marquette its new normal school

for the upper peninsula. The buildings are as yet but three in number, comprising the main normal school building, a dormitory and a science hall. The science hall is known at The Peter White Hall of Science, a just and graceful recognition of the continued, unwearied and practical benefits this rare, and let us hope typical American citizen, has planned and secured for the growth and culture of Marquette. This honor came to Peter White unsought. He had given a thousand dollars a year for a period of five years to the art department of the normal school, but Principal D. B. Waldo announced that the selection of a name for the science hall had not been dictated by any monetary consideration. When this science hall was dedicated men from all parts of the country came to attend. They came, not to dedicate a new



PETER WHITE PUBLIC LIBRARY.

branch of an educational system, but to see an honor done to Peter White. "That is all I came for," said Don M. Dickinson, bluntly.

Dickinson had suggested the year before that there should be placed at the entrance of Presque Isle, where it would be seen of all men entering upon that beautiful spot, a colossal bronze statue of Peter White. "Let us have the sturdy figure," said he, "upon the sturdy legs with a kindly face in colossal brass and bronze at the entrance of the park."

It was to this dedication that Dr. H. C. Potter wrote that there had long been a conviction in his mind that if there had been no Peter White there would have been no upper peninsula.

But it was left to the late Dr. Wm. H. Drummond of Montreal, a life-long friend, to say the rare and proper thing, to limn him in a line: "Strong in his gentleness, wise in his simplicity, practical in his enthusiasm, pioneer in an age of pioneers, the man whom children on the street know only as Peter White, stands today, it seems to me, the very highest ideal of that civilization of which the American people are so proud. When such men build the foundations, easy it is to raise the superstructure, and the trail Peter White has cut through life is blessed by acts of private charity and deeds of public devotion that will serve as a guide to those who follow in the footsteps of a truly great, and above all, good man." Drummond dedicated Johnny Courteau to Peter White with the exquisite lines from The Merchant of Venice: "The dearest friend to me, the kindest man, the best condition'd and unwearied spirit in doing courtesies."*

*Following is one of Dr. Drummond's poems about Peter White:

PIERRE LEBLANC.

Ev'y State upon de Union, w'en dey write her up today,
Have so many kin' of story not many understan';
But if you lissen me you can very quickly see
How it's easy t'ing remember de State of Michigan.
An' me I know it's true, cos ma fader tole me so,
How dat voyageur dey're callin' Pere Marquette
Come a-sailin' hees canoe, wit' de Injun from de Soo,
On de year so long ago dat I forget.

But wan t'ing I can say, w'en Marquette is reach de shore
Where w'at you call hee statute is stickin' up today
Dere's a lettle French boy dere say, "Comment ca va, mon pere,
You been so long a-comin' I hope you're goin' to stay."
An' he show heem safes' place w'ere he put hees birch canoe,
An' de way he talk an' boss de Injun man,
Wall, it's very easy see dat between you'se'f an' me
Dat leetle feller's born to comman'.

An' Marquette be's moche surpise at de smart boy he has got,
W'ere he come from, w'at's hees name, and ev'ry thing;
But de boy he go ahead feexin' up de camp an' bed,
For he always treat hees frien' jus' lake de King.
Marquette he den fin' out w'at de lettle feller know,
An' w'at he never see, an' all de Grosse Pointe law;
How it's mixit up so moche ev'ry body's scare to touch
An' de name he call hese'f is Pierre LeBlanc.

Wall, Marquette he's not a fool, so he's sayin' "Au revoir,"
For leetle Pierre LeBlanc's too wide awake.
No chance discoveree so far as he can see
Less he fin' some newer place upon de lake.
So dere he stay upon de shore, de lettle Pierre,

During the last ten or twelve years Peter White has been the president of the Mackinac Island State Park Commission. Under his management this island has been literally transformed. It is probably without exception

An' buil' de fines' log house he can get.
Purty soon he have a town on de place he settle down,
An' call it for hees frien' M'sieu Marquette.

But de folk he's bringin' dere fin' it hard w'en winter come
An' ev'ry place is pilin' wit' de snow.
Den who is volunteer bring de letter 'way up here
From de contree lyin' off dere down below?
Was it feller six foot high is do de job,
Carry letter all de way from Canadaw,
Wit' hees fourteen dog-traineau bangin' t'roo de ice an' snow?
No siree. It's only leetle Pierre LeBlanc.

But the way he treats hees dog dey say is very bad,
Many folk is takin' all about it yet.
So of course dey're comin' back lak de racer on de track
For hees dog dey don't get not'ing till dey're passin' on Marquette.
Wall, I s'pose he's very poor, Pierre LeBlanc,
An' de pay he's gettin' for it's purty small,
An' he got to eat hese'f, or mebbe he was lef,
So we never get our letter after all.

An' den he start to grow, an' de way he work dey say
For de folk on ole Marquette an' all aroun'
Mak' heem very populaire on de contree ev'ry w'ere.
Till he t'ink he was de beeges' man in town.
Den hees head begin to swell, 'cos my fader tole me so,
And first t'ing, he was puttin' on de beeges' style he can,
But he ought to be ashame for de way he change hees name
To Peter White, an' try to pass for only Yankee man.

Mebbe lettle Injun, too, can't say for dat mese'f,
For he always spike sauvage de same as Ojibway.
An' w'en he want to swear it's enough to raise de hair
To hear heem sayin' "Wabigoon ah—goozah—goozah—gay."
An' lak de Injun, too, very hard to tell hees age
For he mus' be over honder dough he's lookin' forty year
An' he's alway on de rush, you can't lose heem on de bush,
An' he's eye is lak de eagle, strong an' clear.

An' he's leevin' wit' us now, Pierre LeBlanc dit Peter White,
But he won't say not'in' more about hees name
Let heem try it if he can, makin' out he's Yankee man,
But never min' for Pierre LeBlanc he's good man jus' de same.
So if you want to know de State of Michigan
Very easy to remember—in case you might forget
Only two man make her go, 'cos ma fader tole me so,
An' wan is M'sieu Pierre LeBlanc, de oder Pere Marquette.

—W. H. D.

the most beautiful spot on the chain of lakes, and the most liberal policy dominates its management. The little village that was there when Peter White first visited it in 1845 is there yet, quaint, curious and insular; but all else is changed. It is a perfect fairyland now and is the summer resort of the north.

Does anyone imagine that there would have been any celebration at Sault Ste. Marie in August, 1905, to commemorate the fiftieth anniversary of the opening of the first canal which made navigation possible between Lake Superior and the lower lakes, had it not been for Peter White? There would not. It was an opportunity to be seized upon, but the chief beneficiaries of the iron companies and vessel interests were too busy with their own affairs to give it thought. But Peter White had been in the Lake Superior country before the canal and he has been there since. He knew what one would be without the other. He knew also that a celebration was the very thing to bring the commercial importance of Sault Ste. Marie before congress and the nation to the end that the canal might continually be developed. He began his plans for the celebration as early as 1902. This untiring and unselfish soul went to Washington and saw congress about it. He told congress that Sault Ste. Marie belongs to the nation, and that it was the iron in the Lake Superior hills that was making the industrial blood of the country run a healthy red. In twos, in fours, and in committees he told the senators and representatives about it, and he even told the president, producing his figures to prove the statement. Day after day he paced the corridor leading from the senate to the house and was finally promised an appropriation if he would bring the subject to the attention of congress at the next session. Early in 1905 he went to Washington to have that promise kept, but the cry of economy was there ahead of him. The senators would not listen to an appropriation. Peter White was disappointed but not defeated.

There was a little dinner one night, just a friendly, informal affair in the senate restaurant, that was attended by Speaker Cannon, Senator Burrows and Congressman Hemenway, chairman of the conference committee, and others. Peter White, who dearly loves the French-Canadian character, was a guest at this dinner, and he told a great many stories, both humorous and pathetic, of life in the peninsula, and once in a while he let a remark drop to show what a tremendously solemn thing the iron business of the United States has become, with its magnitude and its responsibilities, and how some day in the near future another lock would be needed at Sault Ste. Marie to facilitate the feeding to the iron trade of its raw material, iron ore.

"I guess we better give Peter White an appropriation," said Speaker Cannon.

"Nothing less than $10,000 will do any good," said Peter White.

"Well," said Hemenway, who was drafting the general deficiency bill, "if you'll get the signatures of every Michigan senator and representative that Michigan wants this appropriation, we will put it in the bill."

Peter White quickly secured the signatures of all but one representative, who after a considerable search, was found in an out-of-the-way corner very busily engaged in writing. He was shown the paper, but after reading it with a very ironical expression on his face returned it without his signature, saying that he had spoken against the Lewis & Clark celebration and the Jamestown Exposition and could not therefore with good grace vote for an appropriation for his own state. Peter cordially endorsed the representative's course but added that the cases were by no means analogous, that while the expositions were comparatively local affairs the Sault Ste. Marie canal was a national institution and that for the nation to celebrate its semi-centennial was fitting and proper. He became eloquent as he enlarged upon his theme, and when he concluded the representative had nothing more to say. He signed the bill and Peter White hurried back to Hemenway with it. The appropriation was inserted in the bill and passed, but the ink had scarcely dried upon the measure when the clock struck twelve and congress had adjourned for the session.

With his bill in his hand Peter White went to Lansing. He has privileges at Lansing because he has earned them. The legislature went into open session to hear him. He told his story simply, told of the scope of Michigan's great contribution to the material welfare of the country; told what congress had done and asked that Michigan participate in the proposed celebration and take charge of it. He did not tell them that he had spent freely of his own time and money to bring it about. But the legislature saw it, appreciated it and appropriated $15,000. The governor of Michigan appointed Peter White president of the commission to conduct the celebration.

Then Peter White appointed Charles T. Harvey, who built the first canal, chief marshal of the celebration, a fitting, thoughtful and sensible thing to do, and then he went among his friends, the iron companies, and asked them to contribute to its success. They all did so with pleasure, giving not only money but offering ships as well.

The Sault Ste. Marie Canal Semi-Centennial celebration is the latest triumph of Peter White. It focused the attention of the country upon this canal which, while geographically remote, is commercially the most impor-

tant artificial waterway in the world. The dissemination of general knowledge among the people upon this point will do more than anything else to inspire a liberal policy by the national government towards the waterways of the great lakes. Approximately $50,000,000 has been spent on lake channels by the government, but the iron ore alone which has been transported along them has already exceeded $1,000,000,000 in value. In fact the saving in freight rates on Lake Superior alone in a single season is equal to the total sum expended by the general government on the whole chain of lakes since it begun the improvement of its waterways. Since the canal was built 450,268,919 tons of freight of various kinds have passed through it, of which 349,024,457 tons have been the movement of the past twelve years.

Peter White returned to Marquette to face the greatest sorrow he has ever known—the death of his wife, who for forty-eight years had been his constant companion and helpmate, and who had presided with infinite tact and graciousness over an ideal home. He bore this great affliction with noble fortitude and resignation as he had borne before the loss of five of his children, whose fingers were tightly clutched on the strings that lead to the heart.

And thus we bring our hero down to the present day, full of years and of honors and of sorrow, too, for that is the heritage of life.

CHAPTER XXIII.

THE SAULT CANAL SEMI-CENTENNIAL CELEBRATION.



CHARLES T. HARVEY, CHIEF MARSHAL.

IT IS a very common thing for a lecturer to illustrate by stereopticon images the places that he has visited, the scenes that he has witnessed or the things that he has done; but how rare it is for a speaker to illustrate his lecture with the actual thing itself! Right at the base of the great Weitzel lock at Sault Ste. Marie Peter White was detailing the growth of lake commerce, its magnitude and wonderful expansion, the development of vessel property from the small schooner to the giant steamer, when just as he spoke the steamer Saxon, upbound, entered the canal with the ease and silence and caution that had marked the passage of the Indian canoe half a century ago. The speaker's back was turned and he did not see the living stereopticon that was illustrating his very words, but the thousands who were facing him saw it and were greatly impressed.

The Semi-Centennial celebration of the completion of the first canal at Sault Ste. Marie to commerce was held on Wednesday and Thursday, Aug. 2 and 3, 1905, and was attended by several thousand citizens. The Semi-Centennial celebration was under the direction of a commission consisting of Peter White of Marquette, Mich., Horace M. Oren of Sault Ste. Marie, and Mr. Charles Moore of Detroit. Mr. Charles T. Harvey, who built the first canal, and whose locks were continuously in use from 1855 to 1887, acted as chief marshal of the occasion. The attendance of vessel and iron ore interests was surprisingly small, being represented only by W. C. Mather, J. H. Sheadle, Capt. J. C. Gilchrist, William Livingstone, Capt. James Stone of Cleveland; John Russel, Detroit, and J. C. Evans, Buffalo. Miss Betty Poe, daughter of the late General Poe, was a guest of honor.

At sunrise on Wednesday morning a naval salute was given by the government fleet in the harbor. At nine o'clock the band concert began in the Old Fort Brady park on the canal front, and was participated in by the regimental band, First United States Infantry, the band of the Third Michigan National Guard, and the Calumet & Hecla band. Simultaneously began the naval parade through the locks, making a very effective display, as will be seen from the accompanying photographs. This parade was under the command of Peter White, created admiral of the day, and whose flag flew



THE FLAG OF THE ADMIRAL OF THE DAY.

The Peter White flag presented to the Marigold by Henry M. Campbell and flown at the foremast of that vessel during the celebration.

from the masthead of the Marigold. It was unfortunate that there were no giant freighters to join the procession, but notwithstanding their absence the effect was impressive. The first squadron consisted of the United States steamers Marigold, Tuscarora, Morrell and Mackinac, accompanied by a fleet of other vessels. These vessels were locked through the great Poe

lock. It is interesting to state that they were all locked through at once. They then proceeded across the St. Mary's river above the rapids and passed down through the Canadian ship canal and locks. The parade was then joined by every conceivable craft in the harbor passing in review and exchanging salutes with the gunboat Wolverine and the Michigan Naval Reserve steamer Yantic.

The military parade of the afternoon was under the direction of Mr. Charles T. Harvey, chief marshal. It was headed by the First United States Infantry band and followed by a battalion of regulars from Fort Brady. The balance of the military display was made up of the state troops of

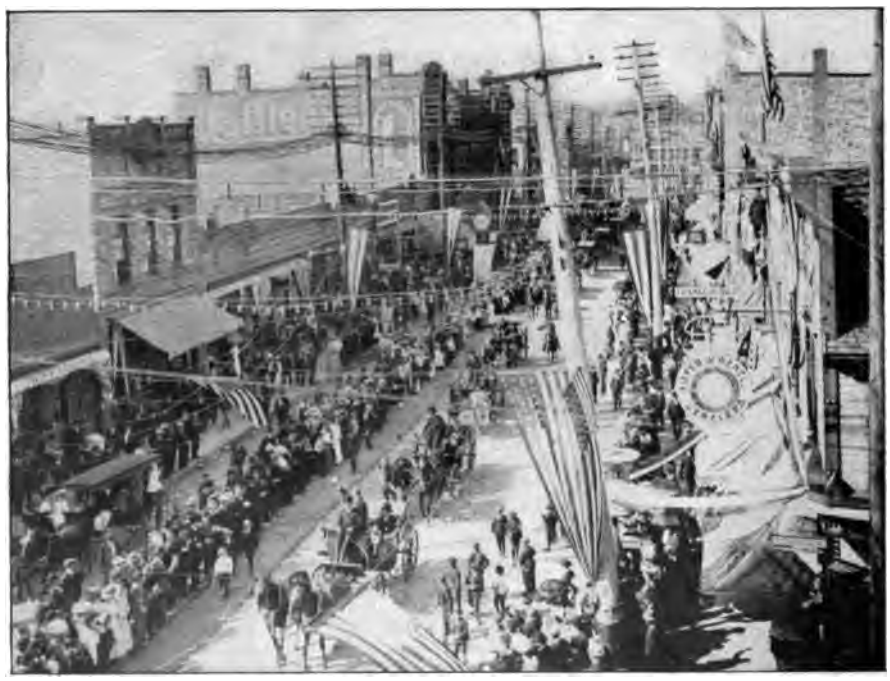


ADMIRAL PETER WHITE'S FLAGSHIP MARIGOLD.

Michigan. It was interesting to note the difference in deportment between the state troops and the regulars. The regulars marched with their eyes straight ahead, glancing neither to the right nor left and apparently oblivious to the fact that they were on parade. The state troops, however, had eyes for everyone along the sidewalk.

Vice President Fairbanks with Governor Warner, of Michigan, headed the list of carriages which contained the distinguished visitors, the members of the senate and the house of representatives of Michigan and other state officials. The parade was reviewed by the vice president of the United States and the governor of Michigan from the reviewing stand at Old Fort Brady on the canal.

The latter part of the afternoon was given over to an exhibition of Indian life by a few Ojibway Indians, who had built their tepees on the canal park. The Indians all, men, women and children, presented an admirable appearance. Their performance was under the general direction of Mr. W. O. Armstrong of Montreal, who has done much to preserve the record of Indian life as it existed in the peninsula prior to the advent of the white man.



THE LAND PARADE, SAULT STE. MARIE CANAL SEMI-CENTENNIAL CELEBRATION.

Wednesday was given over to band concerts and fireworks. It must be admitted that in this particular the Canadians did far better than the Americans. They gave a magnificent display of fireworks, which was enjoyed by thousands long after the last rocket had been shot off on the United States side. As a concluding piece the Lake Superior Corporation illumined its great rail mill from one end to the other with innumerable incandescent lights, marking the outline of the building completely and repeating it on the following evening also.

The commemorative exercises were held in the speakers' stand in the

south park of the canal on Thursday. The invocation was given by Archdeacon Arthur H. Lord of Sault Ste. Marie, and in the absence of Mayor Frank Perry, the Hon. Chase S. Osborne of Sault Ste. Marie delivered the address of welcome. Mr. Osborne was especially felicitous and happy in his remarks, particularly in reference to the great, black, business bateaux of 10,000 tons that have taken the place of canoes of the voyageurs.*

The Hon. Peter White, who presided, then introduced Gov. Fred M.



INDIAN TEPEES AT SAULT CANAL SEMI-CENTENNIAL CELEBRATION.

*Peter White in presiding used a gavel made from the timbers of the old steamer Independence which was presented to him on the day of the celebration with the following poem:

For sure mebba, I don' do right, to sen' pres'sen' to Petare W'ite,
Of co'rs' he's man I've heard a good deal, but jus' de sam' I halways feel
Dat w'en you try to 'blige a man, 'tis bes' furs t'ing to onnerstan'
Wedder dat man weel welcom' you, een w'at you say or try to do.
An' so—but den, oh dear, L'enfant!—I of'en heard of Pierre Le Blanc;
He's kin' of man who'll halways greet de poores' purson h'on de street,
An' so ma frien', I don' feel frade, to spick with dis beeg ace o' spade,
Nor h'am I frade he'll fin' eet hard, to tak' dis' token of regard
From wan who knows heem but een nam', but t'inks he's "W'ite man" jus' de sam'.



ADMIRAL PETER WHITE'S FLAGSHIP, THE MARIGOLD, PASSING BETWEEN THE WOLVERINE AND YANTIC.

THE BEGINNING OF THE CANAL AT PORT SAID

Warner of Michigan, who read an address upon the subject "The State of Michigan and the Building of St. Mary's Canal," saying:

"The great work, the completion of which we are now commemorating, is one of the connecting links between the governments of our Nation and of our State. Fostered by both, the construction and improvement of the St. Mary's Ship Canal have borne no small part in maintaining the interest which the government at Washington has in our commonwealth. As we look upon conditions as they exist today, and consider the wonderful development of our State and commercial relations which have been established between Michigan and the entire world beyond our borders, we too often overlook the agencies which have brought about these results. In the consummation of great enterprises and in the enjoyment of the benefits resulting from them, the difficulties overcome and the courage and energy of the men who champion them are too often forgotten. This is especially true as to the construction of this canal. How seldom do we now think of the discouragement with which its promoters were well nigh overcome, and the splendid faith and untiring perseverance of the men who, under most unfavorable circumstances, could still see hope of success and promise of achievement.

"It is because of this that the setting apart of an occasional day for the purpose of perpetuating in our memories the great events in the State's development may wisely be encouraged, and it is to the credit of the last legislature that it made an appropriation for the proper participation by the State in this celebration.

"The act of the Legislature in making the appropriation was a fitting recognition of the importance of the canal in the development of the great material and industrial interests of Michigan. When, in the settlement of the difficulty between the States of Michigan and Ohio, that part of the State now embraced in what is known as the Upper Peninsula was practically forced on the State, the country was believed to be of little value, and it was with great reluctance that Michigan accepted the territory in lieu of the valuable tract ceded to Ohio. What a revelation there has been since

So, Pierre Le Blanc, or Petare W'te, for sure you'll geev me great delight,
Eef you'll accep' dis leetle cane, dis paper knif', wit nice h'oak grain,
An' las' of h'all, dis gavel, too, w'ich I 'av' mad' express for you.
Dey each wan formed—now, ain't dat queer—formed part of dat h'ole pioneer,
Dat steamed de lake—I jus' forget—I tink 'tween here an' h'ole Marquette,
For sure dat's honder year ago, you's here dat tam', so you mus' know;
For I 'av' heard, you're purty h'ole, tree honder year so I've been tole,
Excuse to me, for spick of h'age, dough dat's de garmin' of de sage,
An' wan I know you wear jus' right, for peop' h'all say dat, Petare W'ite.
H'am yours vera trula,

MOISE ST. PIERRE.

that time to the people of Michigan and of the country as to the marvelous resources and untold wealth of the then despised Upper Peninsula. Here are located the greatest copper producing mines of the world. Here are to be found well-nigh exhaustless deposits of iron ore. Here, notwithstanding the carrying on of extensive lumbering operations for many years, still exist vast forests of valuable timber. And now this peninsula is astonishing the people below the Straits by the rapid advancement of its not inconsiderable agricultural interests.



SHOWING VICE PRESIDENT FAIRBANKS, GOV. WARNER, CONGRESSMAN BURTON, SENATOR BURROWS AND WILLIAM LIVINGSTONE, PRESIDENT OF THE LAKE CARRIERS' ASSOCIATION, IN THE FOREGROUND IN THE SPEAKERS' STAND.

"In the development of these great and still unmeasured resources the St. Mary's Ship Canal has borne the leading part. It has been and is the gateway through which have poured the products not only of this peninsula but of the entire northwest—iron from the Mesaba range, wheat from the fertile plains of the Dakotas and Manitoba—constituting a tonnage greater than that which passes through the Suez Canal.

"We of the Lower Peninsula, priding ourselves on the rapid development of all our resources, congratulate you of the Upper Peninsula that, largely through the building of this canal, you have been able to make equal progress in the development of your resources. We are interested in all things that pertain to your welfare as we know that you are interested in everything that pertains to ours.

"Let us not forget that this feeling of mutual interest is making of these two peninsulas one commonwealth, not only in name but in fact—a State, one of the greatest in the sisterhood of states.

"It is surely not expected of me that I speak at length of the history of this great enterprise, or in detail of its effect upon the industries of the State, the Nation, and the world, for that privilege is properly left to one who is as much a part of this great north country as the very rocks themselves; one who has been an important factor in its every development, and who because of his good works is as well known to us below the Straits as you above. I can thus refer to no other than Michigan's honored citizen, Peter White.

"Michigan deeply appreciates the interest which the national government, the people of our sister States and our friends across the border, have taken in these commemorative events, and I consider it especially fitting that the great English speaking nation of Europe should, through the representatives of the Canadian government, participate in this celebration, for it is to these two great English speaking nations, the one of the old world and the one of the new, working hand in hand, that the world must largely look for its standard of civilization through the centuries to come.

"It becomes my delightful duty to welcome you, one and all, to this spot which plays so important a part in the great business activities of the world."

The principal address of the morning was, of course, the historical address upon the development of the Lake Superior region by Peter White, Marquette.*

*In April, 1849, I was and for two years had been living on the island of Mackinac, then in many ways relatively a much more important place than it is now. A depot of the American Fur Company was there, and there was another at the Sault. I do not know which of the two was the more important. The business of Mackinac Island dealt very largely with the skins of wild animals.

I had a position in a mercantile establishment, which gave me leisure in winter to go to school. Hon. Edward Kanter, afterwards of Detroit, a very well-known man, was my employer, and I liked my place very much indeed. But with the coming of this particular spring there was a good deal of excitement in the air over an expedition overland to California, and another one which was being fitted out under Mr. Robert Graveraet, to go to the so-called "iron mountains" of Lake Superior. The copper excitement began some time earlier, and there had been, as early as 1846, some exploration and mining, not far from where Marquette now is, for silver lead. But now the iron excitement was something new.



NAVAL VESSELS IN THE GREAT POE LOCK, BEING LOCKED THROUGH AT ONE TIME IN THE SEMI-CENTENNIAL CELEBRATION.

A rather touching incident occurred at the conclusion of the exercises during the afternoon. When Peter White stepped down from the platform he was met by Bill Wiaskia, a Chippewa Indian, and two other Indians. At



CANADIAN LOCK WITH GATES CLOSED.

It had been long known by the Indians and others that there was copper in the Lake Superior country, very accessible and very pure. Just why the miners delayed so long in going after it is hard to say. But somehow the Mexican war—the first foreign difficulty in many a long year—and the discovery of gold in California seem to have operated to wake up adventurous spirits everywhere.

Eighteen hundred forty-nine was a great year for the American explorer. The '49er of Lake Superior has often clasped hands with the '49er of California, and indeed the men of one of these districts often sought the other extreme of the country to continue their work. The late John H. Forster, of Portage Lake, was a California pioneer of '49. Mr. Robert Graveraet, who captained the proposed expedition to the Lake Superior region, was a man of remarkable strength, energy and commanding character; and I was advised by prominent citizens at Mackinac, like Mr. Samuel F. Haring, collector of the port, that the iron mountain country was likely to afford a fine opening for an energetic young man. Mr. Haring had always been very friendly in his attitude toward me, and his advice influenced me a great deal.

It required a good deal of faith, for Mr. Kanter was paying me $35 a month, with

that moment Mrs. Thomas D. Gilbert, of Grand Rapids, daughter of Rev. Abel Bigham, who established a Baptist mission at the Sault in the early days and who was herself born there, joined the party. Though it has been

board, and the coveted school privilege; and I was to have only $12 a month and board, for a year, with the expedition. Nevertheless, I joined willingly. Our trip up the lake and river from Mackinac to the Sault was a tedious and difficult one. We were in the old steamer Tecumseh, a side wheeler, and a mere pigmy compared with the steamers which now ply the lakes. It took us eight days to make the trip, as the ice was only just bginning to break up, and side wheelers always made poor work of ice. A railroad in this country had never been thought of; indeed, railroads were then in their infancy in the United States. Railroads in America are only about as old as I am. There were then only about 1,600 people in the whole northern peninsula—perhaps a thousand if we leave out the settlements at Mackinac Straits. I have no means of knowing how many Indians there were.

Those Indians who came to Mackinac numbered about 10,000 each year, but they came from south of the Straits as well as north, and from as far away as the islands in Green Bay. They were migratory in their habits, ranging far and wide in search of game, fish and furs. There were, of course, a few Indian trails, but none of them led to the iron mountains of Lake Superior. The water route, I might say the ice-water route, was all there was for us. The trip on the St. Mary's river, with all its remarkable beauty, is, of course, entirely familiar to all present. But beautiful as the river now is, it has changed immensely both for the better and for the worse since I first saw it. It has changed for the better, since it seems that the world was created for man, and man has now subdued, changed and possessed this stream for his residence, his solace, his recreation and his commerce. This was before the days of lights, dredges, buoys, ranges and channel improvements. I doubt if a draught of over 10 or 12 ft. could have been successfully brought up to the foot of the rapids at that day.

The river has also changed for the worse, as its perfectly wooded banks were then absolutely unspoiled by the axe or devastating fire. The forest was unbroken, enormous, beautiful in the extreme. The river was leaping with fish, and the woods full of deer, bear and small game. The beaver were everywhere.

I do not remember all the stops we made, but the Sailors' Encampment was one of them. When we reached the Sault we found also a place very few here would recognize, though many old landmarks persisted here not many years ago. The Rapids were the same as to the central fall, but the canals and buildings have very much altered the appearance of things, and the Hay Lake cut, especially down by the Little Rapids, almost more than all. There were few wharves and almost no shipping. My recollection on the Canadian side is that only five or six small buildings made any show on the river. On the American side was old Fort Brady, by the water's edge, a few houses on the river bank below it; but the principal part of the town was above it. There was one wide street starting from the fort grounds, and several very narrow little streets running out of it, as in all French towns. There may have been 500 people all told. Many were French, some were half breeds, some were Americans, some were the resident Indians. The first Jesuit explorers noted that the Sault Indians were not migratory like the others. Some stayed the year through, as fish could always be caught in the rapids, and it was a sort of neutral zone.

The houses were mostly small and low. I do not remember who the commander of the post was, unless it was Lieutenant Russell or Capt. Clark. The garrison could hardly number 50 men besides officers. I remember that there was a Baptist mission, presided over by a clergyman whom everyone called Father Bingham. I knew the family afterward quite well and nice people they were. One daughter, named Angeline, afterward became the wife of Hon. Thomas D. Gilbert, at one time mayor of Grand Rapids, and a regent of the University. His widow, an estimable lady, still lives in Grand Rapids. Capt. Sam Moody, one of our party, thought so much of Miss Bingham that when he found a beautiful lake near Ishpeming, he

a great many years since Mrs. Gilbert left the Sault she was recognized by the Indians and when she asked them if they still remembered the old Indian hymn that was sung at the mission they nodded and followed both

called it Lake Angeline after her, and "thereby hangs a tale." The ore under Lake Angeline proved so much more valuable than the water in it that no lake is there now.

There were several stores at the Sault then, and we purchased here the outfit for our expedition. For our prospective voyage on Lake Superior we had a Mackinac boat between 35 and 40 ft. long, which had to be hauled and poled up about a mile of rapids, near the shore. My recollection is that it took about three hours to get up past the swift water. Among those residing here then, with whom I became acquainted, was John Tallman Whiting, afterward of Detroit. Here he had charge of the warehouse and dock belonging to Sheldon McKnight, a warehouse and vessel-man, who owned in his time many steamers, among which were the London, Baltimore, General Taylor, Illinois, Pewabic and Meteor. Mr. Whiting, a most intelligent and agreeable man, was long my correspondent and friend. The agent of the American Fur Company at the Sault was an autocrat named John R. Livingston, as Judge Abbot was at Mackinac.

There were two hotels in those days at the Sault, the Van Anden and the Chippewa. Smith kept the Chippewa, bought the Van Anden also and kept it for many years. The Chippewa House, some of you remember, was not the original. That building burned down. Then Van Anden, who kept the Van Anden House, desiring to remove to Ontonagon, to keep a new hotel there called "The Bigelow," sold out his hotel to Smith, who immediately rechristened it the Chippewa.

When we say there was no canal, we ought to add that there was then on the Canadian side of the Rapids a liliputian lock, where it may still be seen. It was said to belong to the Northwest Fur Company. It does not remind one of the present canal locks very much, but then Peter Cooper's locomotive with a barrel for a water tank doesn't look much like a modern mogul, but it is the same thing nevertheless. The number of real vessels, not counting craft like our own, then sailing the waters of Lake Superior, was very small, and none of them measured over 200 tons burden. As they had not been built on the big lake, you may wonder how they got over them. They were hauled over on wooden ways, very much as houses are now moved with rollers and windlasses. The Julia Palmer, a side wheeler, and the Independence and Monticello, both propellers, came over the portage that way. The Napoleon was first a sail vessel, but metamorphosed into a propeller. It was said that in a heavy sea she would dip water with her smoke pipe and thus put out the fires. The side wheelers Sam Ward and Baltimore and propellers Manhattan, Samuel Taylor, Peninsula and several more were brought over the portage in the same way.

A Parisian, once a passenger on the Baltimore, when she was making very slow progress up the lake against a heavy head wind, walked out on deck just before dark, took a look at the Pictured Rocks, and was much pleased with the view. In the morning before breakfast he again came out on deck and the panorama astonished him. He exclaimed: "What ees dis beautiful sight you have here?" He was told, "You are again looking at Pictured Rocks." He exclaimed, "What a great countree! Before you go to bed you walk on de deck. You have a grand view de Picture Rock, den you go to bed, you sleep well all night—de steamer is go ahead all the time—you come out on deck in de morning, you see Picture Rock again. What a big country you got and what big Picture Rock!" No one told him that the captain finding that he could make no headway against the wind and the waves had run back to Whitefish Point during the night, and that the Frenchman was now looking at the same rock pictures he had seen the previous evening.

Lake Superior was uncharted, and only poorly lighted, and navigation was therefore quite as dangerous, or more so, for these steam craft of moderate power, as for our Mackinac boat.

A merchant citizen of the Sault named Peter B. Barbeau, a very prominent man and an old settler, one day met a stranger from off a boat lying at the dock. The stranger said to him, "I take it that you live in this place?" "Yes sir: I do." "Well, then, I would like



THE INDIAN TEPEES ON THE CANAL PARK AT SAULT STE. MARIE CELEBRATION.

the tune and words as she gave it. Peter White thereupon broke into an Indian song with dance accompaniment to the great delight of the Indians, who immediately began to sing the song and go through the steps with

to ask you how this town got its curious name, Sault Ste. Marie?" "That, sir," replied Barbeau, "is a corruption. The town was originally named after a lady called Susan Maria, and by mispronunciation it has become 'Soo Ste. Mary.'"

According to my recollection I was back at the Sault twice after the first visit, before the canal was opened. Once I came down by lake, taking a steamer passage to reach here. On the second occasion I came down with the Hon. Abner Sherman on land-office business. We wanted to enter some land at the United States Land Office, which was then at the Sault. We walked all the way, and the journey was one of enormous difficulty and hardship, and a good deal of danger. It took nine days. I wish I had time to tell you incidents of the trip. The distance now from the Sault to Marquette by railroad in almost an air line is about 153 miles, but we couldn't take any such direct route; we had to follow the shore all the way. Fording streams like the Au Train was very dangerous, and one came near costing me my life. Skirting the great Tahquamenon swamp was another heart-breaking task. We would be in the water up to our waists for miles, but we lived through it nevertheless. Such were things before the canal was built. The difference in the appearance of town, shore and vessels was not more marked than the difference between our dress then and now. We hardly ever wore coats, but hickory shirts in summer and flannel shirts in winter. Very occasionally we had blanket coats with capote, but more usually if we were cold we put on more shirts. Most housekeepers of today would be greatly surprised at the thickness and beauty of the five-point blankets, which was one of the annual treaty payments to the Indians, one blanket to each adult. Such a blanket was nearly as stiff as a board and was wonderfully warm.

When pay time came, besides the blankets, enough money was distributed to make either $18 or $22 to every Indian man, woman and child. I do not remember whether the Indians were ever paid at the Sault, but I have seen 10,000 or 12,000 paid at one time at Mackinac, and the whole beach full of wigwams for miles. The inhabitants were very willing to have them with their attendant drawbacks, as it made trade. But all the northwest furs came down this way to flotilla from Fort William. Before the canal the Lake Superior country was the land of romance, but was closed except to the limited traffic I have mentioned. But the ocmmerce was both the key that opened it, and the result of the opening. Enterprising as were the great French explorers, no trade but the fur-trade was important in their eyes. It was to their interest, as they saw it, to keep the country wild, a fur-bearing country. The canoe and the bateaux were big enough for them. They never thought of displacing the Indians by large settlements. But when the lumbermen, the miner and the heavy freighter came, the canal became a necessity.

From our present standpoint the projectors would have been satisfied with small things. How would a lock 100 ft. long strike you now? Yet such was actually planned, indeed actually determined upon by some persons in authority at a time not far from the achievement of statehood. What surprise would now be felt to hear that the United States government ever opposed the canal! Yet soldiers from Fort Brady actually chased away the first laborers employed by the State to dig the canal, because they were trespassing and had entered on without permission, a military reservation. The State and National authorities were at cross purposes for some time.

In passing here is an item worthy of note: In 1840 a bill was introduced in Congress in accordance with a memorial from the Michigan Legislature asking for an appropriation of 100,000 acres of land to aid in building the canal; but Henry Clay, the famous orator and statesman, made a speech against the bill, saying, to quote his own language, "it is a work quite beyond the remotest settlement of the United States, if not in the moon"—and the measure was defeated.

him. Mrs. Gilbert was so affected by the singing that it was with difficulty that she restrained her tears.

A most significant demonstration occurred at the afternoon meeting.

And who would be supposed to be more alive to the uses of a canal, and more intent to see one built, sufficient for all future demands, than the vessel-men? Yet the vessel-men would have been satisfied with a much smaller canal than the one actually built. I have in my possession a copy of a letter by Capt. Eber B. Ward, long acknowledged Grand Mogul of all vessel interests, the heaviest proprietor of lake shipping of his day. In his letter he protested



NAVAL VESSELS IN CANADIAN LOCK.

most vigorously, but fortunately in vain, against building the canal locks over 260 ft. long. The lock was actually made 350 ft. long, but 260 would have allowed the passage of the longest vessel he then had, and he did not foresee the demand for anything bigger. But what really dictated his letter was the fear that if a lock 350 ft. long were begun, it would never be finished. There was the vast land grant of course, but Captain Ward had so little faith in the value of the granted lands, that he estimated their selling value at only 25 cents an acre. He thought they would sell for enough to build a canal lock 260 ft. long, not one of 350 ft. Captain Ward died, as it seemed to some of us, only a few yesterdays ago, and doubtless lived

There were seven speeches altogether at the afternoon session, all of them delivered under a hot sun and with a natural fatigue, both to speakers and audience, inseparable from so long continued a session. Yet the audience,

to change his mind. But with our present knowledge of the ores that have been dug, the timber cut, and the crops shipped from Lake Superior districts, his fears were as erroneous as his land valuation. Two reflex influences are here to be noted. The canal made the ore trade, and then the ore trade made the canal. Without a canal ore could not be shipped at all. With a small shallow canal the finished product of the smelter seemed a more reasonable freight than the ore. But still the ore trade began, and the tonnage of all sorts speedily outstripped the capacity of the canal. It was enlarged and enlarged again, so that a trade which employed at first vessels of two or three hundred tons burden, is now rapidly tending to be monopolized by carriers of 8,000 to 10,000 tons capacity, each with a consort, so that one engine can pull to Cleveland, Ashtabula or Erie, 16,000 to 18,000 tons of ore. In 1855 it was estimated that 30,000 tons of freight passed the canal. In 1881 the tonnage had grown to 1,567,000 tons. In 1886 the enlarged locks carried 4,527,000 tons. In 1901 the second enlargement with the canal open 230 days, 25,000,000 tons of freight were passed—three times the commerce of the Suez canal, and six times that of Kiel.

My thesis is this: The opening of the Sault canal has been of the largest benefit to the whole United States of any single happening in its commercial or industrial history.

Every state in the Union has benefited by it. A long water-haul is so enormously cheaper than rail-haul, that the ability to ship large cargoes direct from Lake Superior ports, 1,200 to 1,500 miles, or even across the seas, has transformed the United States and changed her position among the nations. The grain of the northwest now finds an eastern or foreign market with surprising ease. Flour goes direct from Duluth to Liverpool. Many fields and millions of acres are now under plow in Dakota and the Canadian northwest, as the result of the canal. Bread is cheaper in Massachusetts than otherwise would be possible, and thus the canal helps the happiness of the laboring man. The lumber of Michigan, Wisconsin, Minnesota and now of Oregon and Washington, has passed or is passing through the canal. Without this transport it would be impossible that the American people could be so comfortably housed, or that American timber could have been sold abroad for our national wealth and supremacy. The copper of Michigan is the purest in the world; it is usable for results not attempted with the product of other mines of other regions. It is sold all over the world, after passing the canal. It carries the telegraph, the telephone, the electric railway everywhere. It is used in all arts. The age of electricity is due to the canal. The iron of Michigan, the ores of unexampled purity have passed and are passing the canal. Before this movement began the iron industry of America, chiefly engaged with the lean Pennsylvania ores, was having a fierce struggle for existence. The Lake Superior ores are rich enough and varied enough to mix with the Pennsylvania ores, and have saved the iron and steel industry of Pennsylvania, and so in America. The iron industry is the key of the commercial supremacy of the world. Before the canal we were dependent on the British Isles. Now we can undersell the world. The canal made Pittsburg the great city that it is today; it made cheap rails and railways possible; it made cheap tools, cheap wire, and has fenced the woodless prairies; it has made cheap nails and implements of all kinds. It has sent our rifles, shovels, hammers, reapers, bridges, and rails, all over the world. The American ironclad is the child of the canal.

Kitchener went to Khartoum with the freight of this canal. No English company would agree to furnish the Albany bridge necessary for his advance in less than eighteen months. An American contractor set it up in three months. Carnegie builds libraries and rewards heroic virtue with the fruits of a business impossible without the canal. The coal of the south returns by the canal to temper our winters and to drive our engines.

Population is the child of the canal; industry another; comfort another; education and philanthropy twins of the canal; agriculture, manufactures, transportation, world intercourse, commercial supremacy, and the world's acreage the offering of the canal. The canal has reduced the price of steel rails from $150 a ton to $26 and occasionally even less. King Iron used to reign from an English throne, now his throne is in America. We are now the great creditor nation, and as such have the greatest possible influence in the peace of the world.

tired as it was, called for Clergue and refused to disperse until he had appeared and said a few words to them. Mr. Francis H. Clergue in responding to the calls said that he was now to be regarded only as appearing in the role of a day laborer, but that he had not lost faith in the future or in Sault Ste. Marie, and predicted that before the centennial of the canal could be celebrated Sault Ste. Marie would be the metropolis of the west.

The principal speaker at the afternoon session was Vice President Fairbanks, who was listened to with great attention, and who packed a great deal of excellent matter into very small space.

Bill Wiaskia, the Chippewa Indian, occupied a seat on the platform and was invited to speak just before the celebration came to its official close. It was a connecting link with the past that he should have renewed the protest of Shegud, made fifty years ago. The original canal lock went through the old Indian burying ground, which had been forever reserved by treaty to the Indian. Shegud eloquently pleaded for the observance of the compact, but it was useless. Wiaskia related how, fifty years ago, he

On the authority of a Bishop of the English church, I assert that the United States has now the greatest power for world-peace of any nation, or that any nation ever had. Our power is largely the result of this canal. If any one knows of anything bigger in the history of civilitation I should be glad to hear of it. What was the Colossus of Rhodes? What is the great Pyramid? Where are the hanging gardens of Babylon? The biggest thing on earth is known by its results, and the biggest thing is the Sault canal. But bigger than anything created is the creator; and larger than anything conceived of is the mind that conceived it.

The Erie Canal, that has done so much for the State of New York, is 363 miles long from Albany to Lake Erie, and was completed Nov. 4, 1825. The first shovelful of dirt was taken out of it at my birthplace, at Rome, N. Y., July 4, 1817. Its completion was celebrated on a certain day. All the nations of the world were invited to participate in the celebration, and every nation that had a war vessel sent one with representatives to assist in the celebration, bringing all manner of gifts as offerings. One vessel brought barrels of water from the River Jordan which were poured into the canal at Albany to bless and prosper the wonderful great waterway. The whole cost of this canal was over $62,000,000, including all enlargements. In 1883 its use was made free. It makes a continuous water connection from the Great Lakes to the Atlantic Ocean, and yet, great as its benefits are, it cannot for one moment be compared to this canal, only a little over one mile in length.

Let me give you a few figures to indicate how sensibly the world's production of iron and steel has been influenced since this canal came into being. First of all I will give, for comparative purposes, the production of pig iron in the United States and Great Britain for some years prior to the construction of the canal.

PRIOR TO THE CANAL.

UNITED STATES. Pig Iron.		GREAT BRITAIN. Pig Iron.	
Year.	Tons.	Year.	Tons.
1820	20,000	1820	400,000
1830	165,000	1830	677,417
1840	286,903	1840	1,396,400
1850	563,755	1850	2,210,000
1854	657,337	1854	3,069,838

Thus it is seen that in no year prior to this canal, which made the Lake Superior deposits available, did the United States produce much more than 600,000 tons of pig iron. Let me now exhibit a statement tracing the rise and decline of the British pig iron industry and showing as well the constant ascendancy of the United States in pig iron production, coincident with the annually increasing flow of Lake Superior ore through this canal.

had journeyed to Detroit and how Gen. Cass, who drew the original treaty, had told him there that aside from the actual strip occupied by the canal the remainder with its adjoining islands was part and parcel of the Indian reservation, to remain in their possession "so long as the water flowed past it,"

SINCE THE CANAL WAS COMPLETED.

	Total Shipments Lake Superior Ores. Gross Tons.	Pig Iron Production in the United States. Gross Tons.	Pig Iron Production in Great Britain. Gross Tons.
1855	1,449	700,159	3,218,154
1856	36,343	788,515	3,586,377
1857	25,646	712,640	3,659,377
1858	15,876	629,548	3,456,064
1859	68,832	750,560	3,712,904
1860	114,401	821,223	3,826,752
1861	49,909	653,164	3,712,390
1862	124,169	703,720	3,943,469
1863	203,055	846,075	4,510,040
1864	243,127	1,014,282	4,767,951
1865	236,208	831,770	4,825,254
1866	278,796	1,205,663	4,523,897
1867	473,567	1,305,023	4,761,023
1868	491,449	1,431,250	4,970,206
1869	617,444	1,711,287	5,445,757
1870	830,940	1,665,179	5,963,515
1871	779,607	1,706,793	6,627,179
1872	900,901	2,548,713	6,741,929
1873	1,162,458	2,560,963	6,566,451
1874	919,557	2,401,262	5,991,408
1875	891,257	2,023,733	6,365,462
1876	992,764	1,868,961	6,555,997
1877	1,015,087	2,066,594	6,608,664
1878	1,111,110	2,301,215	6,381,051
1879	1,375,691	2,741,853	5,995,337
1880	1,908,745	3,835,191	7,749,233
1881	2,306,505	4,144,254	8,144,449
1882	2,965,412	4,623,323	8,586,680
1883	2,353,288	4,595,510	8,529,300
1884	2,518,692	4,097,868	7,811,727
1885	2,466,372	4,044,526	7,415,469
1886	3,568,022	5,683,329	7,009,754
1887	4,730,577	6,417,148	7,559,518
1888	5,063,693	6,489,738	7,998,969
1889	7,292,754	7,603,642	8,322,824
1890	9,012,379	9,202,703	7,904,214
1891	7,062,233	8,279,870	7,406,064
1892	9,069,556	9,157,000	6,709,255
1893	6,060,492	7,124,502	6,976,990
1894	7,748,932	6,657,388	7,427,342
1895	10,438,268	9,446,308	7,703,459
1896	9,916,035	8,623,127	8,659,681
1897	12,469,638	9,652,680	8,796,465
1898	14,024,673	11,773,934	8,609,719
1899	18,251,804	13,620,703	9,421,435
1900	19,059,393	13,789,242	8,959,691
1901	20,593,537	15,878,354	7,928,647
1902	27,571,121	17,821,307	8,679,535
1903	24,289,878	18,009,252	8,935,063
1904	21,822,839	16,497,033	8,562,658

From this table it will be seen that the United States reached its high-water mark in pig iron production in 1903, when 18,009,252 tons were produced as against 8,935,063 tons in Great Britain, or more than once again as much as Britain. The present year of 1905 is, however, expected to be the record-breaking year of all when ore han 30,000,000 ton of Lake Superior ore will come down the lakes, and when the furnaces of he United States will, according to the monthly rate of the present year, safely make more pig iron than Great Britain, Germany and France combined. It is an interesting commentary to be able to state as a fact that one single company in the United States, viz., the United States Steel Corporation, produced in the year 1904 a greater steel tonnage than was made in the whole of Great Britain.

THE CONVENTION HOUSE AT THE BAIE CENTIBRE

Wiaskia maintained that this agreement too had been violated without adequate satisfaction. Wiaskia, who is a big man, spoke easily, with large and graceful gestures, and with great dignity. He left the speaker's stand with a giant's stride and with the profound respect of all who heard him. All things considered, it was fitting that the exercises should have been closed in this manner. It brought the two beginnings of the two half centuries together. Who knows but what the Indian, who confessedly has not had his just deserts, may be better treated at the close of this half century than he was at the close of the last? The exercises were concluded by singing "America."

In commemoration of the Semi-Centennial celebration the commission, of which Peter White was president, caused to be erected at Sault Ste. Marie an obelisk of hammered Stony Creek red granite. The shaft is 45 ft. long, 5 ft. 5 in. square at the foot, tapering to a dimension of 1 ft. square and then finished to a point. It weighs sixty tons. The commemorative tablets upon it are as follows:

The total amount of steel produced by the United States Steel Corporation last year was 9,167,960 tons, out of a total in the United States of 14,422,101 tons. Great Britain's total production was in 1904, 5,134,101 tons of steel, a little over one-half as much as the United States Steel Corporation product and a little over one-third as much as the whole United States product.

That shows the great advantage that this country has in the manufacture of iron and steel since the entire steel making capacity of the United States Steel Corporation is exclusively from Lake Superior ores. Last year the United States produced more pig iron than Great Britain and Germany combined. There are plenty more very interesting figures for us to contemplate, but I fear I will tire you and so forbear. The increased mileage in railroads in the United States since 1855 is astounding and worthy of comment, but time forbids.

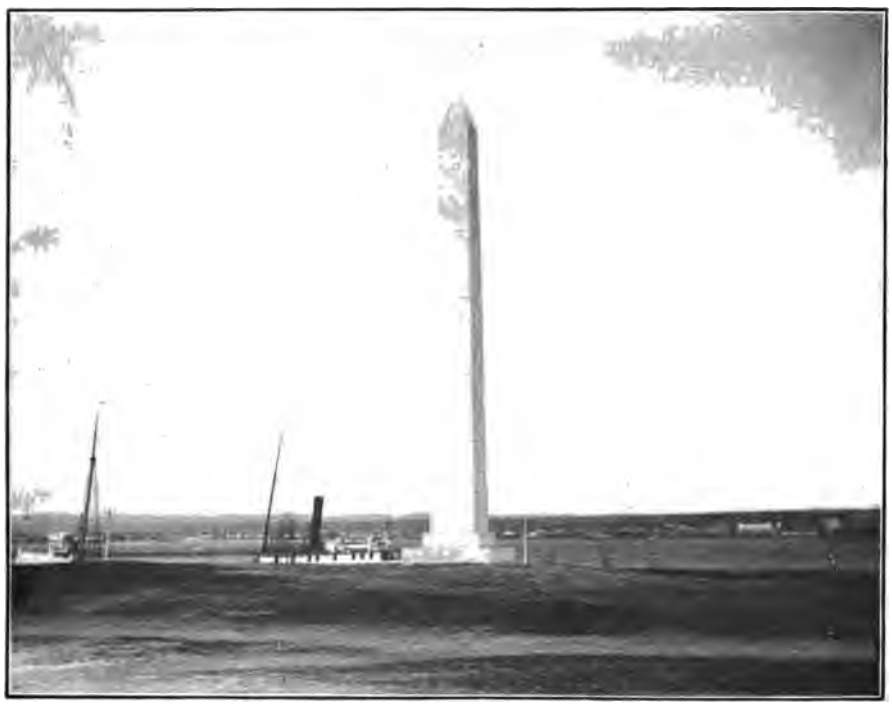
But I cannot close without pointing out the fact that the freedom of the canal is almost greater in its influence than the canal. This great waterway is free to the British flag as to our own, as are all the canals of the United States government. The Canadians themselves have been as generous in allowing us the free use of their canal on the other shore at all times and under all circumstances as we could possibly desire them to be. They have set us an example of liberality of good will that we must always profit by, and be just as generous in return. This, then, as we hinted, is Lake Superior's declaration of independence.

This vast land-locked sea with all its tributaries is free, and its freedom means these infinite results, the greatest addition to freedom since freedom came. And we who have seen its development and have worked the forests and mines which have chiefly made its commerce, may pause in wonder that so few and so feeble a people living under so cold a sky should have been permitted to share so largely in changing the seat of empire, and enlarging the happiness of the world.

Who that celebrates this mighty triumph can forget the men who dreamed it and the men who made it? Governor Mason had it in his mind, but failed to bring it to pass. A great thought is next in honor to a great deed. We have Charles T. Harvey, the builder of the first lock, with us today. General Weitzel, who built the first enlarged lock. was the officer who took possession of captured Richmond. Poe, whose name adorns the largest lock, was famous on many a stricken field. Both wrought themselves as well as their names into these locks, and both were capable of more. If men, whose genius made these locks, and those whose interests and ability urged on, expanded, and used them, were named together, it would prove that peace is greater than war, that commerce is the handmaid of peace, and if the men of the twentieth century outstrip those of the nineteenth, who wrought this wonder, the race of giants must return.

[SOUTH TABLET]

THIS MONUMENT, ERECTED BY THE UNITED STATES, THE STATE OF MICHIGAN, AND THE MINING AND TRANSPORTATION INTERESTS OF THE GREAT LAKES, COMMEMORATES THE FIFTIETH ANNIVERSARY OF THE OPENING OF SAINT MARYS FALLS CANAL, CELEBRATED AUGUST 2 AND 3, 1905; THEODORE ROOSEVELT BEING PRESIDENT; FRED M. WARNER, GOVERNOR. CELEBRATION COMMISSIONERS: PETER WHITE, HORACE MANN OREN, CHARLES MOORE. CHIEF MARSHAL: CHARLES T. HARVEY.



THE MONOLITH, ERECTED AT SAULT STE. MARIE BY THE SEMI-CENTENNIAL COMMISSION, TO COMMEMORATE THE COMPLETION OF THE FIRST HALF CENTURY OF THE CANAL'S USEFULNESS.

[EAST TABLET]

THE XXXII. CONGRESS HAVING MADE A GRANT OF PUBLIC LANDS TO AID THE CONSTRUCTION OF A SHIP CANAL AROUND SAINT MARYS FALLS, THE STATE OF MICHIGAN CONTRACTED WITH JOSEPH P. FAIRBANKS, JOHN W. BROOKS, ERASTUS CORNING, AUGUST BELMONT, HENRY DWIGHT, JR., AND THOMAS DWYER, PRINCIPALS; AND FRANKLIN MOORE, GEORGE F. PORTER,

JOHN OWEN, JAMES F. JOY, AND HENRY P. BALDWIN, SURETIES, TO BUILD A CANAL ACCORDING TO THE PLANS OF CAPT. AUGUSTUS CANFIELD, U. S. A. THE WORK OF CONSTRUCTION WAS ACCOMPLISHED BY CHARLES T. HARVEY, C. E., WHO OVERCAME MANY SERIOUS OBSTACLES INCIDENT TO THE REMOTE SITUATION. THE CANAL, OPENED JUNE 18, 1855, WAS OPERATED BY THE STATE UNTIL JUNE 9, 1881, WHEN IT WAS TRANSFERRED TO THE UNITED STATES AND MADE FREE TO ALL VESSELS. SUPERINTENDENTS UNDER THE STATE: JOHN BURT, ELISHA CALKINS, SAMUEL P. MEAD, GEORGE W. BROWN, GUY H. CARLETON, FRANK GORTON, JOHN SPALDING.

[NORTH TABLET]

BESIDE THESE RAPIDS, JUNE 14, 1671, DAUMONT DE LUSSON, NICOLAS PERROT, LOUIS JOLIET AND FATHERS DABLON, DRUILLETTES, ALLOUEZ AND ANDRE CLAIMED POSSESSION OF ALL THE LANDS FROM THE SEAS OF THE NORTH AND WEST TO THE SOUTH SEA, FOR LOUIS XIV. OF FRANCE. IN 1763, THE LAKE REGION WAS CEDED TO ENGLAND AS A PORTION OF CANADA, AND AT THE CLOSE OF THE REVOLUTION, SAINT MARYS RIVER BECAME PART OF THE NATIONAL BOUNDARIES. IN 1797, THE NORTH WEST FUR COMPANY BUILT A BATEAU CANAL AND LOCK ON THE CANADIAN BANK. IN 1820, LEWIS CASS, GOVERNOR OF MICHIGAN TERRITORY, HERE ESTABLISHED THE AUTHORITY OF THE UNITED STATES FROM THE GREAT LAKES TO THE MISSISSIPPI RIVER.

[WEST TABLET]

IN 1856, CONGRESS FIRST MADE APPROPRIATIONS TO IMPROVE ST. MARYS RIVER UNDER THE DIRECTION OF THE CORPS OF ENGINEERS, U. S. A. CAPT. JOHN NAVARRE MACOMB AND CAPT. AMIEL WEEKS WHIPPLE HAD CHARGE OF THE WORK UNTIL 1861; AND COL. THOMAS JEFFERSON CRAM, MAJ. WALTER McFARLANE AND MAJ. ORLANDO METCALFE POE FROM 1866 TO 1873. THE WEITZEL LOCK WAS BUILT BETWEEN 1876 AND 1881 BY MAJ. GODFREY WEITZEL, ASSISTED BY CAPT. ALEXANDER MACKENZIE. MAJ. FRANCIS ULRIC FARQUHAR AND CAPT. DAVID WRIGHT LOCKWOOD WERE IN CHARGE, 1882-3. FROM 1883 TO 1896, THE CANAL WAS ENLARGED AND THE POE LOCK BUILT BY COL. POE ON THE SITE OF THE STATE LOCKS. FROM 1895 TO 1905 THE OFFICERS IN CHARGE SUCCESSIVELY WERE LIEUT. JAMES BATES CAVANAUGH, COL. GARRETT J. LYDECKER, COL. WILLIAM H. BIXBY, MAJ. WALTER LESLIE FISK, AND COL. CHARLES E. L. B. DAVIS. GENERAL SUPERINTENDENTS UNDER THE UNITED STATES: ALFRED NOBLE, EBEN S. WHEELER, JOSEPH RIPLEY. SUPERINTENDENTS: JOHN SPALDING, WILLIAM CHANDLER, MARTIN LYNCH, DONALD M. MACKENZIE.



VIEW OF THE SEMI-CENTENNIAL NAVAL PARADE, SHOWING THE WEITZEL LOCK EMPTY.

EPILOGUE.

A REVIEW of Peter White's life would be a review of the history of the Lake Superior country. His life compasses all that is modern in the history of that princely territory—the richest in a mineral sense that has ever been discovered. The only part of it which his life does not embrace is the pre-industrial period.* What antedates him is largely legend or frag-

*The following excellent poem, illustrating the popular impression of the longevity of Peter White in the peninsula, appeared in the Detroit Free Press, Sept. 27, 1897.

You know one man call Petare Wite
What live up by Marquette,
Was born four hundred year ago
An I'm glad she hain't daid yet.

Perhaps you tink dat one big lie,
But if you doan' b'lieve true,
She's live for last two t'ousand year
I'm goin' prove to you.

Deys got a Sunday school up dere,
An' one day not long ago
Ze teachare hask em question
To see how much dey no.

"Who's was the one dat run ahead,
Say, 'Mak' road and mak' 'em strait'?
Come, hanser me dat question now,
Doan' keep me long to wait."

Jus' one in hinfant class what no,
She was six year hole and bright.
Now, I always s'pose 'twas Jean Baptiste—
But she say "Petare Wite."

An' now I've prove ze haige to you,
I'm goin' on wid my story,
It's more about dat Petare Wite,
An' more as to his glory.

Long time she was call Pierre Le Blanc,
'Bout two tree hundred year
Before 'twas change to Petare Wite,
By dose English peeps 'roun' here.

mentary exploration, and even of this history he has gathered as much as he could and has preserved it in the imperishable pigment of prose. But it is because he has lived throughout the entire industrial era that his life has great historic value. The changes since he ripped the sod off the iron ore of the Cleveland mine in 1849 have been vast. That blow altered the face of a continent. Instead of the stubborn and rebellious mule hauling a four-ton car on a little strap railroad there are now plying to this self-same range some of the most powerful locomotives ever constructed, and

One day she walk down by ze rocks,
'Bout sixteen sixty-four,
An' scratch hees haid and wink hees hye
At lit' speck far out from shore.

Ver soon dat lit' speck was a canoe,
Bimeby it came to shore,
A man jump out, strange French man,
What she never saw before.

An' dat man say "Bon jour, my fren',
I doan' know you, and yet
I guess your name is Pierre Le Blanc—
Mai name ees Pere Marquette.

"I hear 'bout you from mai grand-pere,
Dat you could not be beat,
An' I tought I'd stop and get acquaint'
So two good mans could meet."

An' Petare say, "Dat's very good,
I'll tell you what I'll do—
I'll build a town on dis here spot
An' call it after you."

An' Petare tak' him to hees house,
An' fill him to hees jaw
Wid everyting she had was nice,
Champagne and poisson blanc.

Dat good pries' stay for two, tree week,
An' den he say "Good-bye,"
Wile great big tear run down hees cheek,
Two, tree stan' on hees hye.

An' den he jump in hees canoe
An' shove off from ze bank,
An' look up to ze sky and say,
"God bless you, Pierre Le Blanc."

An' Petare built dat city,
An' did more' as dat, you bet,
He also built one monument
For hees young fren Pere Marquette.

A. E. W.

the freight traffic along the old road bed is among the heaviest in the world. Instead of a 100-ton schooner receiving its cargo of ore upon a gang plank there is a 10,000-ton steamer being loaded by means of a trestle dock with its pockets and chutes in far less time than it took to load the little schooner —and all coming from the self-same deposits. To be exact, the great steamer Augustus B. Wolvin has loaded 10,245 gross tons of ore at the Great Northern docks, Allouez Bay, in 89 minutes. Nine thousand tons of this load were put on in 34 minutes and the Wolvin was at dock a total period of only 180 minutes, which included shifting. Instead of the old strap railroad at the Portage and Sheldon McKnight and his old gray horse, there is the great Sault Ste. Marie canal, whose traffic is more than three times as great as that of Suez, the ungated highway to nations that were old before the dawn of history. Instead of the painful loading and unloading of cars by human labor there is the steam shovel, the drop bottom car and the great unloading machines with automatic buckets. Instead of an annual output of 1,449 tons there is an average yearly output of over 20,000,000 tons, with the probability of the output reaching 42,000,000 tons during the present year; instead of a freight rate of from $3 to $6.25 per ton from Marquette to Ohio ports as it was in 1866, there is the present trip to trip rate of 75 cents and a contract rate over a term of years of even less than that figure. The Ocean, the Fur Trader, the Algonquin, the Baltimore and the Mineral Rock, have given way to an ore-bearing fleet of steamers, rivaling in dimensions and carrying capacity the great Atlantic liners. Witness the ore-laden fleet as it passes out of Duluth harbor; follow it a little down the lake until it joins the squadron emerging from Two Harbors to be joined by a third defiling from Ashland. Eastward they sweep, uniting with the old guard at Marquette, bearing down upon the Sault in a mighty throng, staggering the imagination to believe that they are plying water that knew only the birch bark canoe scarcely half a century ago. Ask what genii is it that has rubbed Aladdin's lamp to such purpose, and the answer is Iron. Onward they sweep and debouching into Lake Huron join another detachment coming through the Straits of Mackinaw from Lake Michigan. Down Lake Huron they continue, a vast and evergrowing procession, closing in at Port Huron for the passage of the Straits. Then the great parade, moving steadily onward, enters the Detroit river. It is no state occasion that one beholds, but the common business of the day. Never-ending, never-stopping, like shuttlecocks in some great machine they ply, making up the most impressive commercial panorama that the earth can show. Sixty million tons are passing in review, 40,000,000

of it being iron ore to be worked up by countless hands to do service to mankind in innumerable ways.

Forty millions of it to furnish employment to a dozen railways that lead from Lake Erie ports to the furnaces of Ohio and Pennsylvania. Day and night, month after month, all the year round, along the up-grade from Cleveland, giant locomotives at front and rear, pulling, pushing, puffing, may be seen moving heavy ore trains, the locomotives yearly growing higher in the air and the cars growing longer and longer as though both were swelling with the strain of keeping up with the torrent of ore that never ceases and is ever growing. The scene is repeated at Fairport, Ashtabula, Conneaut, Erie, Buffalo, Toledo, Huron, Sandusky and Lorain. It has been going on for fifty years, this toil of Titan, this transfer of red, brown, blue and purple earth from the Lake Superior mines to the hungry and roaring furnaces of the Ohio and Pennsylvania valleys. When will it end? Its profusion and its cheapness of transit have contributed more than anything else to the industrial success of this country. It has made its presence felt in every form and condition of existence. Truly, as Peter White said in Washington, the iron trade of the United States is a mighty solemn fact. It has lifted a people to the very apex of industrial supremacy among nations. How long will it maintain them there? Within the space of fifty years it has distributed the blessings of wealth among a greater number of individual families in the United States than any other nation can boast of though it be a thousand years old. How long is this beneficence to continue?

'Tis a far cry from the six tons of bloom iron per day that were made in the Jackson forge in 1849 to the 25,307,191 tons of pig iron that were produced in this country in 1906. Peter White, who labored with the iron makers in the beginning, the day of small things, saw a single American company, working with Lake Superior ore exclusively, produce last year more steel than was made in the whole of Great Britain. The United States Steel Corporation produced in 1906 13,511,149 tons of steel, against 6,462,274 tons in Great Britain, exclusive of castings. Peter White's six barrels have grown indeed. He saw this same company ship 20,500,000 tons of ore from the Lake Superior country in a single season. What a contrast to the sleigh that held a single ton when he was a boy, to the time when 18 tons was considered a big day's haul, when a stock pile of 1,000 tons was all that could be accumulated over winter.

What has this man seen? He wrote the bill of lading for one of the earliest, if not the first, shipments of ore to leave the Lake Superior country.

He saw it carried away in a little schooner to be portaged over the falls and to be loaded again upon equally tiny vessels. He saw it carried in sailing vessels because steamers were largely at that time passenger craft and such a thing as a steamer for bulk freight purposes exclusively was not even dreamed of. It was a period of unlighted channels and navigation was therefore impossible by night. He saw these little sailing craft delayed by current and unfavorable winds in the rivers and he saw the old steamer Gore, an old-fashioned British-built paddle craft, lash a sailing vessel on each side of her and carry them through the rivers.

He saw this system of towing speedily abandoned in favor of the astern towing by the handier propeller and he saw the Hamilton Morton, Peck Castle and John Martin built for this purpose. Then the tug Champion followed with double engines and power sufficient to tow seven or eight sailing vessels. Occasionally an increasing north wind would compel the Champion to release one of her tows so as to make headway with the rest against the current and then great would be the profanity of the skipper so abandoned, a cyclone being but a summer's breeze to his vast and awful bluster. In 1869 he saw the steamer R. J. Hackett built to carry the ore of the Jackson mine. She was the first steamer to be built exclusively for the ore trade. She was the first to be built with machinery aft with a continuous hold and hatches spaced 24-ft. centers. The next year her consort, the Forest City, was constructed. They are the parents of a very numerous and much improved family. This system of a steamer and its consort began gradually to displace the sailing vessel and to counteract its effect the owners of sailing vessels frequently employed the tugs to tow them all the way between upper and lower lake ports.

He saw iron supplant wood as a shipbuilding material in the construction of the Onoko in 1882 at the Globe Iron Works, Cleveland. The Onoko was 287 ft. long and 38 ft. beam, and was the largest dead-weight carrier on the lakes for many years. He saw steel supplant iron in ship construction by the building of the Spokane for the Wilson Transit Co. by the Globe Iron Works, Cleveland, in 1886, until now it is the only material used of which to build them. The Spokane was 310 ft. long, 38 ft. beam and 24 ft. deep. He saw the one great departure in the construction of the ore carrier made by Alexander McDougall in 1888, when he conceived a form of construction known as the whaleback, and built No. 101 and thirty like it only to discover after all that the type did not embody the points of highest efficiency for ore carriage. He saw how cautious was the growth in the size of the ore carrier, the main dimensions even as late as 1894 being under 300 ft. He saw in 1895 the first of the 400-footers, the Victory and the Zenith appear, and in 1897 noted that the Bessemer Steamship Co.

gave orders for a steel steamer and two consorts larger than anything previously built, the steamer being 475 ft. over all and the barges 450 ft. These dimensions stood until 1900, when Mr. A. B. Wolvin placed an order for four 500-footers. These vessels are the John W. Gates, Wm. Edenborn, Isaac L. Ellwood and J. J. Hill. They are called 500-footers because they approach it so nearly, being less than 2 ft. short of 500 ft.

He saw in Mr. Wolvin the boldest experimenter in ship construction, not only in the size of ships but in the method of building them. The unit of construction spacing for an ore ship is the length of the ore car in use on Lake Superior. This car is 24 ft. long. The dock pockets are therefore 12 ft. wide center to center and, therefore, the ship has her hatch openings 24-ft. centers. With these openings she could load from every other pocket and when a series of pockets was emptied, a 12-ft. shift along the dock would put the hatchways in front of another series. Now the human ore handler is wedded to strike and holidays when the pressure on the docks is greatest, and the new type of ship's deck was demanded with opening sufficient to permit the unloading machines to operate all over the interior of the vessel. Mr. Wolvin accordingly built the steamer James H. Hoyt in 1902 with nineteen hatches all spaced 12-ft. centers. She took on her cargo of 5,250 tons of ore in the record-breaking time of 30.5 minutes, and unloaded it by means of the Hulett unloading machine in 3 hours and 52 minutes. These records have since been superseded by those obtained on the steamers Wolvin and George W. Perkins. Mr. Wolvin then went a step further—a considerable one, it must be admitted. He built in 1904 the steamer Augustus B. Wolvin, 62 ft. longer than any other ship ever constructed on the lakes. She is 560 ft. over all, 540 ft. keel, 56 ft. beam and 32 ft. deep with thirty-three hatches spaces 12-ft. centers. In constructing the Wolvin hold stanchions were dispensed with and a system of girder arches were substituted in their place to support the deck as well as the sides of the ship. This system, first introduced on the Sahara, built a few months prior to the Wolvin, has since become the accepted mode of modern construction since it leaves the hold entirely free from any obstruction which might interfere with the unloading machines. Another novelty lies in the shape of her cargo hold. This is built in the form of a hopper with sides that slope from her main deck down to the tank top and the ends built on the same slopes. The hopper extends in one continuous length of 409 ft. without bulkheads or divisions of any kind and in width measures at the top 43 ft. and at the bottom 24 ft.

Recent, however, as is the construction of the Wolvin, she has already been greatly superseded in size. Mr. Harry Coulby, president and general

manager of the Pittsburg Steamship Co., which is the corporate name under which the ships of the United States Steel Corporation are operated on the Great Lakes, placed orders with the American Ship Building Co. for four steamers 9 ft. longer than the Wolvin. Their names are Elbert H. Gary, Wm. E. Corey, Henry C. Frick and George W. Perkins. Scarcely had they been built before he placed orders for eight ships of even greater dimensions—the J. Pierpont Morgan, A. H. Rogers, P. A. B. Widener, Norman B. Ream, Thomas Lynch, George F. Baker, Thomas F. Cole and Henry Phipps—all of them being 600 ft. over all with the exception of the Cole which is 605 ft. 5 in. Even these were hardly in the water before they were outstripped by W. M. Mills' three ships—the W. B. Kerr, W. M. Mills and L. S. DeGraff, with their overall length of 607 feet and beam of 60 feet. These are the record cargo carriers of the lakes, moving in a single trip over 12,000 tons.

How vivid this recital is by contrast. A single full cargo of one of these steamers represents seven times the movement of ore through the Sault Ste. Marie canal in 1855, and one of these vessels could alone have carried the entire ore commerce of the lakes for a number of years thereafter. Progress has been rapid on the great lakes during the past few years but it has nevertheless been cautious. Even as late as 1897 two big consorts were constructed for a steamer then building. The year 1897 is not so very far in the past, but it is reasonably assured that no one to-day would place an order to build a consort. The highest economy of operation is reached by the single steamer of large carrying capacity and low power. There was justification for the consort system in the days of wooden ship building because a fleet of sailing ships was in existence whose natural destiny in the evolution of trade was that of consort. But it was not economy to build a new vessel for consort purposes. It took the vessel owners a long time to come to the conclusion that it was really expensive business to put machinery of high power in a steamer for the purpose of enabling her to tow a consort. She burned a great deal of fuel, and moreover lost considerable of her own time in port waiting for her consort. The Elbert H. Gary has the same engines that the Manola had which was built by Pickands, Mather & Co. in 1890. The Manola could carry 3,000 tons of ore; the Gary over 10,000 tons.

In 1905 the Cleveland Cliffs Iron Co., the same old Cleveland company changed in title a bit but not a whit in its fine character, named one of its great steamers in honor of Peter White. She was built by the Great Lakes Engineering Works of Detroit. She is of large carrying capacity and low power and represents the highest type of modern ore freighter.

CONCLUSION.

IT was said of George Washington that there was something about the man that was finer than anything he ever said or did, and probably those who read this sketch may be searching through it for some justification for the great hold that Peter White has upon the affections. Splendid as his work has been for the betterment of social conditions there is something about the man that is higher and better than his work.

We will take leave of him at his camp—the kingly side of him. The camp is twenty-four miles from Marquette and four miles from the railroad. Do you think that Peter White rides from the railroad to the camp? Not a bit of it. He walks, walks with the quick, impulsive, springy, forward movement of the second Frederick and acts as though he were tireless, as indeed he probably is. The camp is 800 acres in extent and consists of virgin forest with river, swamp and lake and a little clearing in the center. The clearing is at the side of a maple grove and in it stands the camp dwelling, constructed most picturesquely of logs. The clearing is devoted to a garden where all fruits and vegetables that the peninsula will raise are cultivated. The river, called Whitefish river—probably because there are no whitefish in it—flows past the door. The whitefish is a dainty feeder and loves clear and sparkling water. The water of the Whitefish river, like many of the little rivers in the peninsula, is stained by the roots of trees and shrubs through which it passes. But if there are no whitefish in the river there are far greater attractions in the camp. Free, wild and unfenced, as it is, it is the natural haunt of the deer. They are very abundant and in summer are very tame, and one may see them eating at a distance; but in fall and winter they are very wary, and it is only a wild crash through the bushes that notifies one that he has encroached too closely to their presence. There are wolves, too, far more plenty than is comfortable for the defenseless classes of wild animals, and Peter White and his companions go on an annual expedition of extermination. The camp is filled

with the trophies of the chase.* His son-in-law, George Shiras, son of Justice Shiras of the United States Supreme Court, who married the only living child of Peter White, hunts with the camera and has made some

*AN IMPROMPTU MUSE.

The following bit of impromptu verse was written by Walter Russel on his return to Detroit from a visit at Peter White's camp, where he hunted in company with George Russel, Jere Hutchins, and other Detroiters:

When Pierre LeBlanc hung out the sign,
Calling the Nimrods into line;
While he would show he ne'er could tire,
In heaping logs upon the fire,

He little dreamed as flames waxed bright,
And smoke shot upward like a kite,
That hunters' hopes should also melt,
As waves of fire that he then felt.

The hunters come in one by one,
Shake from shoe packs, snow by the ton,
And snap from rifle's death, there stor'd,
And hoped would partly pay their board.

Each had gone out with feeling bold,
That when returned, he sure would hold
Across his back and lying low,
A great warm Buck or timid Doe.

But each came back with lanquid air,
And softly would have taken chair,
Except for the noise his great feet wrought
When shaking free the snow they caught.

And each one told of trails he ran,
And miles he cover'd, but not a man
Did tell of the rivers he cross'd,
Or why or when, was almost lost.

So Pierre laughed low in merry way,
And "try it again," he said, "Next day."
As days did come and days did go
They sallied forth with footsteps slow.

And one, they say, with awful thirst
For blood, did bet he'd get deer first;
And choosing Bob to flush the game,
Quite near the camp, a Doe did maim.

And this was Jerry of Street Car fame,
No title Lord or Baron tame,
But butcher bold, with air sedate,
Blown in from that great Texas state.

And when that night with 'lectric stride,
And brimming o'er with gory pride,
He tossed the carcass on the floor,
They knew full well their hunt was o'er.

wonderful photos of deer at the camp by flashlight at midnight. These photos took the world's prize at the Paris exposition. He adjusted a headlight to his canoe and paddling silently towards shore was enabled, after innumerable attempts, to photograph the deer by flashlight. While the slightest noise will frighten deer the mere presence of light does not seem to concern them. It is probably because instinct has taught them to regard it as some phenomenon of nature. The boom and crash of a great boulder down the side of a hill will scarcely make a deer look up from its grazing, while the faintest click of artificial sound will send them flying in terror. It will be noted that in the photograph reproduced herewith the picture was taken before the doe had time to raise its head; the click of the mechanism of the camera in the unrecorded part of a second thereafter sent the frightened creature flying through the woods.



PETER WHITE ON THE FRONT LAWN OF HIS HOME. 1907.

Any biography of Peter White would be incomplete without reference to two things—his celebrated signature and the equally celebrated punch which bears his name. The extraordinary precision in the formation of the letters and their great size are both well displayed in the fac-simile reproduction, actual size, in the frontispiece of this book. The sight of

But Pierre LeBlanc had other schemes;
And one, the wildest of his dreams,
Was from his guests, in mildest way,
To make them think that it would pay,

To draw and fill at cards in sport,
And thus at bay to hold the fort;
"Swipe, if you must, from this gray head,
'Tis only for St. Luke's" he said.



PETER WHITE'S HOME IN MARQUETTE.



PHOTOGRAPHING DEER AT NIGHT BY FLASHLIGHT AT PETER WHITE'S CAMP.

Copyright by George Shiras

this signature once caused Walter S. Russel to write a poem about it.* The Peter White punch is a famous concoction. A great open air reception was once held for distinguished company at the Peter White home, the rooms being opened so that guests freely passed through the house from the front lawn to the rear lawn. On the porch steps leading to the rear lawn were huge receptacles, filled with Peter White punch, while the punch glasses were suspended from the porch vines. Each guest helped himself in his discretion, some possibly more than others, one of the guests who

*LA BLANC SIGNATURE.

Can mak' run on de State w'erever you pleas',
Tak' bateau for go pas' Marquette,
Kip going an' go till de bad place freeze,
Go t'ousand mile an' kip go yet.
My frien', it's a fack, you will never fin',
In book, de bes' of literature,
Any "sig," so beeg, for it fill ten lin',
Bel Pierre LeBlanc Grand Signature.

Don' mak' no matter on w'at page is writ',
If you get on hees curve so swell,
Mos' ev'rywan t'ink it was clean out of sight,
An' he work it to beat de—well
About as mouche as an Banquier dare;
For dat "sig" is no p'tit miniature.
Oh it curl de blood, an' it raise de hair,
Feroce Pierre LeBlanc Grand Signature.

W'en un vrai Banquier is mak' l'argent lent,
You s'pose he go lef' discount slip,
An' writ' dat beeg "sig" for less ten per cent,
Besid' hav' collat', in hees grip.
Not mouche, me dear frien', he tak grand beeg slice,
An' he buy mahog' furniture,
Some tim' he even tak' de discount twice
Mauvais Pierre LeBlanc Grand Signature.

Dat "sig" fool des Indian when he's still garcon,
An' hees dog, dey was tryin' eat,
De shadow it cas' on de snow below,
For de flourish grand seem surely meet,
For such as un honnette homme would ecrire,
Or one at leas' w'it some culture
Instead of a courrier avec no fear,
Malin Pierre LeBlanc Grand Signature.

Oh, it's wide an' it's high and got plaintee dash,
If you see it on tail d'un draf',
Maybee' jus' as good and better d'an cash
For by gar' it moss' mak' me laf',
But now I tell you, an' I tell you encore,
Dat "sig" so lak' reg'lar French gesture
Is twice more better d'an fort jaune d'or
Bon Pierre LeBlanc Grand Signature.

WALTER S. RUSSEL.

was something of an artist and a poet as well, later designing the pen and ink sketch reproduced herewith.

One day Peter White's butler, Charles, in walking from the railroad to the camp with his employer noted a little girl, about eight years old, limping about on a crutch with one leg drawn up and the foot about two inches from the ground. He had seen the little girl limping about in that fashion during the preceding summer.

"Isn't it too bad," said he, "that that little girl should have to limp all her life like that. There is probably something the matter with her knee that prevents her straightening her leg."

"Hey?" said Peter White.
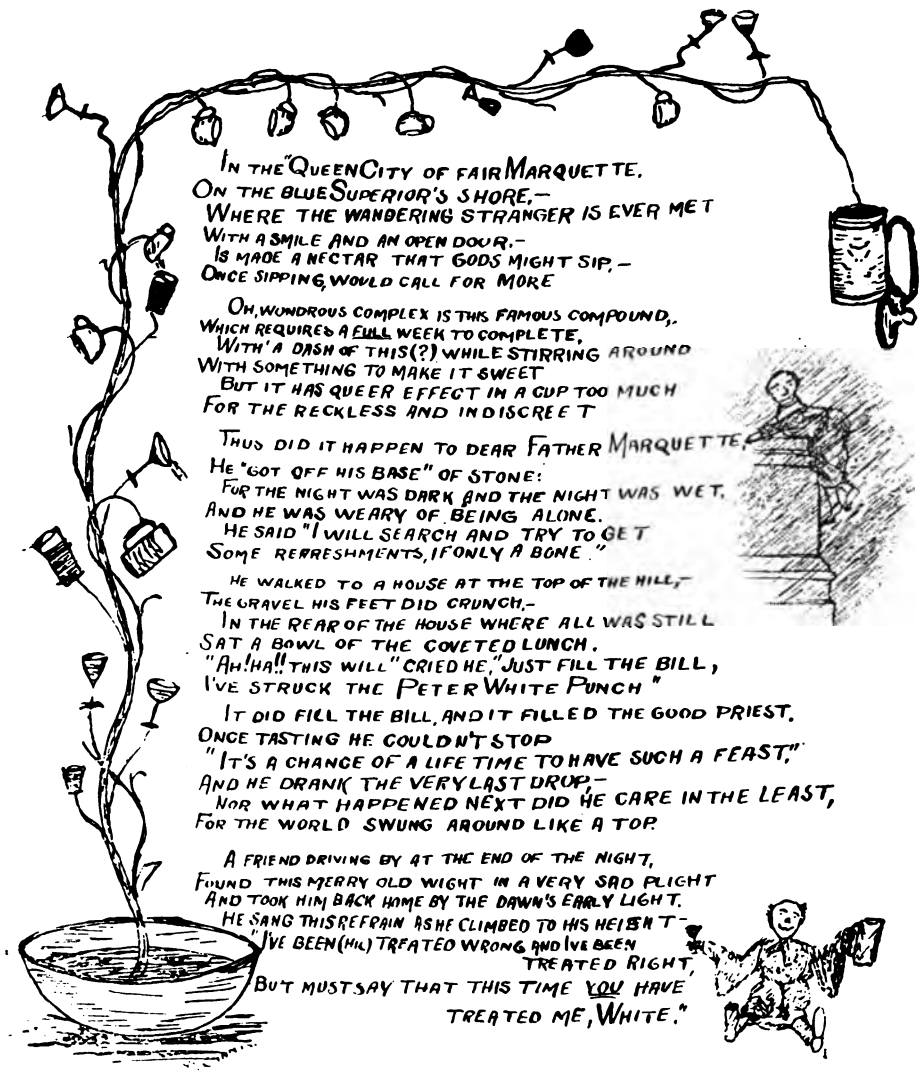


PETER WHITE IN HIS FLOWER GARDEN AT HOME. 1907.

Charles repeated his observation, together with the fact that he had seen her in that condition during the previous year.

"Go to the house at once and see what's the matter with her," commanded Mr. White. "If her folks can't afford to pay for medical treatment I will."

The little one was taken to St. Luke's hospital in Marquette, where it was found that she was suffering from a hip disease which prevented her from straightening her leg and was the result of an injury received over a year before. The physicians stated that had it been attended to at once it could have been remedied within a week, but that now bones would have to be broken and pulled into place through pressure, and that months would be required for the cure. The operation was performed and the child has now two sound limbs.

Peter White as a raconteur is unexcelled. His French-Canadian stories are of particular excellence. On the annual runs of the Marquette Snow



In the "Queen City of fair Marquette,
On the blue Superior's shore,—
Where the wandering stranger is ever met
With a smile and an open door,—
Is made a nectar that gods might sip,—
Once sipping, would call for more

Oh, wondrous complex is this famous compound,
Which requires a full week to complete,
With a dash of this(?) while stirring around
With something to make it sweet
But it has queer effect in a cup too much
For the reckless and indiscreet

Thus did it happen to dear Father Marquette,
He "got off his base" of stone:
For the night was dark and the night was wet,
And he was weary of being alone.
He said "I will search and try to get
Some refreshments, if only a bone."

He walked to a house at the top of the hill,—
The gravel his feet did crunch,—
In the rear of the house where all was still
Sat a bowl of the coveted lunch.
"Ah! ha!! this will" cried he, "just fill the bill,
I've struck the Peter White Punch"

It did fill the bill, and it filled the good priest.
Once tasting he couldn't stop
"It's a chance of a life time to have such a feast,"
And he drank the very last drop,—
Nor what happened next did he care in the least,
For the world swung around like a top

A friend driving by at the end of the night,
Found this merry old wight in a very sad plight
And took him back home by the dawn's early light.
He sang this refrain as he climbed to his heir—
"I've been (hic) treated wrong and I've been
treated right,
But must say that this time you have
treated me, White."

Shoe club, of which he is president, to some familiar spot, the members gather round the wood fire after supper to listen to Peter White's dialect stories—in fact the tumult can never be stilled until he has related dozens of them. Whenever he visits the legislature at Lansing the house goes into committee of the whole and he is invited to relate the adventures of his first trip to that house, consuming days and nights in the journey, when the only voices he heard were those of the wild beasts of the thicket.

No delegation upon the public's business can visit Marquette without the home of Peter White being thrown wide open to them. The latest evidence of this was the visit of the rivers and harbors committee of the house of representatives to Marquette on Sept. 20, 1907. Although the steamer was allowed by her schedule to lie at Marquette but one hour, and was moreover six or seven hours late, the committee found Peter White awaiting their arrival. They were taken in carriages and automobiles about the harbor and around Presque Isle, the drive terminating at Peter White's house where a delightfully informal reception was held, Mrs. Shiras, his daughter, and Miss Joplin, his granddaughter, receiving. While refreshments were being served the usual demand arose for Peter White's dialect stories and they were enjoyed with much relish in the private library. The committee were delighted with the cordiality and informality of the reception and all agreed that it was the most delightful hour they had spent on the whole trip. The congressional party consisted of Hon. and Mrs. E. F. Acheson of Pennsylvania, Hon. D. S. Alexander of New York, Hon. and Mrs. James H. Davidson of Wisconsin, Hon. and Mrs. Edgar C. Ellis of Missouri, Hon. and Mrs. Joseph E. Ransdell of Louisiana, Hon. George F. Burgess of Texas, Hon. and Mrs. John A. Moon of Tennessee, and Mrs. Adam Bede of Minnesota. Mr. George Marr, secretary of the Lake Carriers' Association, accompanied the party with Mrs. Marr.

Following is the recipe for the Peter White punch:

3 Doz. good lemons
1 Qt. Jamaica Rum
1 Qt. Santa Cruz Rum
1 Qt. Brandy
1 Bottle Curacoa
1 Bottle Chartreuse.
1 Bottle Maraschino
A piece of ice 8 in. square set in middle of punch bowl.
If made two or three hours before serving, it will improve.

One hour before serving the punch put in one quart strong cold English breakfast tea and five lbs. white sugar.

One-half hour before serving put in two bottles good Champagne—at same time slice thinly one-half doz. lemons and one-half doz. oranges. Let skin of all lemons go in.

Sometimes I add two bottles of Apollinaris at same time the Champagne is put in.

When you do not use it all, skim the lemon peel and bottle it and you can ice and use at another time. It is good to serve at Ladies' Lunch if frozen into an ice.

It will keep good for months in cool place if tightly corked.

